

U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS.

THE CHEMICAL COMPOSITION

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AMERICAN FOOD MATERIALS.

[Corrected April 14, 1906.]

BY

W. O. ATWATER, Ph. D.,

AND

A. P. BRYANT, M. S.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
OFFICE OF EXPERIMENT STATIONS,  
*Washington, D. C., March 31, 1899.*

SIR: I have the honor to transmit herewith a tabulated summary of analyses made in the United States of materials used for the food of man, prepared by W. O. Atwater, Ph. D., and A. P. Bryant, M. S., under instructions from the Director of this Office. This compilation is a revision of an earlier bulletin of this Office bearing the same title. Since the first edition was published a large number of analyses of foods have been made in connection with the nutrition investigations conducted under the auspices of this Department. Other analyses have been reported by the experiment stations, as well as a large number by the Division of Chemistry of this Department.

In the present publication it is the intention to give the maximum, minimum, and average of all available analyses of American food products up to January 1, 1899, with the exception of milk, butter, and other dairy products, and sugars. The number of analyses of such products is so great and the literature of the subject so large that a compilation of the results might appropriately form the subject of a special publication.

The literature of the subject has been thoroughly gone over, and the present compilation is based upon over 4,000 analyses. A considerable number of these were made by Professor Atwater and his associates, in Middletown, Conn., and a large number by the Division of Chemistry of this Department. Especial credit is due Mr. R. D. Milner for assistance in compiling the results of analyses.

As a necessary basis of this tabulation the individual analyses have been collated in detail. In many cases the number of analyses of a single product was considerable, and it is believed that the averages which are given in the tables may be advantageously used in computing the composition of foods used in dietary studies, etc. In the present form this standard table of food analyses is more complete and satisfactory than any table which has preceded it, and its publication as a revision of Bulletin 28 of this Office is respectfully recommended.

Respectfully,

WILSON,  
*Chief of Agriculture.*

A. C. TRUE,  
*Director.*





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# THE CHEMICAL COMPOSITION OF AMERICAN FOOD MATERIALS.

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## INTRODUCTION.

Until about the year 1880 those who wished to know about the chemical composition and nutritive values of food materials were compelled to depend upon analyses of European products, and most of those analyses had been made in German laboratories. During the last two decades American investigations have accumulated and the results have been collated from time to time. Bulletin No. 28 of this Office, entitled *The Chemical Composition of American Food Materials*, and issued in 1896, gave minimum, maximum, and average figures from a compilation of the analyses of American food materials that were found on record up to July 1, 1895. Since that time the number of analyses of food materials has increased to such an extent that a revision of that bulletin seems desirable. The present bulletin includes American analyses of materials used as food by man, which the compilers have found on record up to January 1, 1899. This table is intended to replace previous ones, and to serve as a standard of reference until it shall, in its turn, be replaced by a larger and more complete compilation.

## BRIEF HISTORY OF FOOD ANALYSIS.

The first effective impulse to the systematic investigation of the chemistry of food was given by Liebig some fifty years ago. Nearly all of our definite knowledge of the chemical composition of food materials and their nutritive value, however, has accumulated within comparatively a few years past. The earliest quantitative analyses of food materials which we have found are those of potatoes, reported by George Pearson in England in 1795.<sup>1</sup> In these Pearson estimated the proportions of water, starch, fibrous matter, extractive matters, and ash in kidney potatoes. He also recognized the presence of fat, acids, and sugar. In 1805 Einhoff<sup>2</sup> made somewhat similar analyses of potatoes and rye. In addition to the estimations made by Pearson, he attempted the separation of albumin. In the case of the potatoes he also deter-

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<sup>1</sup> *Report. Arts and Manufactures*, 3 (1795), pp. 383-400.

<sup>2</sup> *Gehlen's Neues Jour. Chem.*, 4 (1805), pp. 315, 455; 5 (1806), p. 131.

mined several of the constituents of the ash. The earliest European analyses made in such ways as to render them comparable with those of to-day are perhaps those of milk reported by Peligot in 1836,<sup>1</sup> those of feeding stuffs reported by Boussingault in 1836<sup>2</sup> and 1838,<sup>3</sup> and those of milk reported by Boussingault and Le Bel in 1839.<sup>4</sup> The methods of analyses at that time were naturally imperfect. Then, and for some years afterwards, the chief stress was laid upon the proportions of carbon and nitrogen, though efforts were made to determine the proportions of fats, carbohydrates, and nitrogenous compounds. Liebig and his followers—Playfair, Boeckman, and others—about 1840 and later, analyzed a considerable number of foods and feeding stuffs by methods more or less analogous to those now followed. Indeed, during the period from 1840 to 1865, many more or less accurate analyses of foods and food products were made. Often the elementary composition was determined, although many analyses are recorded in which the attempt was made to learn the proximate composition. The methods of determining inorganic compounds were more satisfactory than those for organic compounds, and the early literature reports many determinations of the ash constituents of foods and food products.

Much interest attaches to American work of this nature. The earliest which we have found is the ash analysis of rice, rice flour, husk, etc., reported by C. U. Shephard.<sup>5</sup> He also reported ash analysis of Indian corn and sweet potatoes.<sup>6</sup> In 1848 Salisbury published his prize essay entitled "Maize, or Indian corn."<sup>7</sup> This is a very comprehensive study of the corn plant. A large number of ash analyses of the grain and different parts of the plant are reported, as well as proximate analyses of different sorts of corn. The constituents determined were starch, sugar and extract, fiber, "matter obtained from fiber by a weak solution of potash," albumin, casein, zein, gluten, oil, dextrin or gum, and water. Although these analyses have been superseded by those made in recent years by more accurate methods, it is interesting to compare Salisbury's results with the results of later analyses. For instance, if the sum of the nitrogenous constituents and of the carbohydrates (separately determined by Salisbury) are considered, the percentage composition of ash-free Pennsylvania yellow dent corn is as follows: Water, 10.2; protein, 9.4; fat, 3.7; and carbohydrates, 73.2. The corn was finely ground for analysis and the result may be fairly compared with that of unbolted corn meal (see p. 56). In 1848 and 1849 Beck<sup>8</sup> reported the proximate composition of a large number of samples of wheat and

<sup>1</sup> Ann. Chim. et Phys., 2. ser., 62 (1836), p. 432.

<sup>2</sup> Ibid., 63 (1836), p. 225.

<sup>3</sup> Ibid., 67 (1838), p. 408.

<sup>4</sup> Ibid., 71 (1839), p. 65.

<sup>5</sup> Trans. New York State Agr. Soc., 1844, p. 343; Amer. Quart. Jour. Agr. and Sci., 1 (1845), p. 122.

<sup>6</sup> Amer. Quart. Jour. Agr. and Sci., 1 (1845), p. 130.

<sup>7</sup> Trans. New York State Agr. Soc., 1848, p. 678.

<sup>8</sup> U. S. Patent Office Rpts., Agr., 1848, p. 245; 1849, p. 49.

flour. The constituents determined were water, bran, gluten, starch and glucose, dextrin, etc.

In 1849 Emmons<sup>1</sup> published a considerable number of analyses similar to those made by Salisbury of oats, barley, millet, rye, corn, buckwheat, and wheat. Emmons also reported analyses of tomatoes, carrots, beets, parsnips, beans, squash, eggplant, potatoes, and sweet potatoes.<sup>2</sup> Analyses of several sorts of cabbage and of cauliflower and turnip-rooted cabbage (kohl-rabi) made by Salisbury are quoted in Emmons's report.<sup>3</sup> In 1857 Jackson<sup>4</sup> reported proximate analyses of several varieties of corn and of Chinese yam and potatoes.

Much of this earlier work is interesting to-day, chiefly from a historical standpoint. The analyses in most instances were very carefully made, but accurate methods of organic and analytical chemistry had not yet been developed. A great advance was possible when Henneberg and his associates elaborated the so-called Weende method for proximate analysis. While this is based on earlier work, the methods were simplified and systematized. It was not until this new method came into general use, about 1864, that any considerable number of chemists undertook a systematic study of food materials from the standpoint of their nutritive values. The Weende method has been used for over thirty years in Europe, America, and other countries. Individual investigators and associations of chemists have studied its details and devised ways by which it might be improved. Minor alterations have been adopted, and in several countries details have been agreed on officially by organizations representing experiment stations and Government officers charged with the responsibility of making analyses in the interests of the public. The methods followed in different countries agree so closely, that for the last twenty years it has been possible to accept analyses by chemists in different parts of the world and compare them one with another without hesitation. The first analyses made by these methods in the United States of which a record has been found were a series of analyses of Indian corn in 1869.<sup>5</sup> Excepting the investigations of Professor Storer, at the Bussey Institute, little work in this line was done until the establishment of the experiment stations. Since that time a large number of analyses have been made. Jenkins and Winton's *Compilation of Analyses of American Feeding Stuffs* includes analyses of grain and vegetables, and is reasonably complete up to 1891.

Upward of 200 analyses of food fishes, oysters, etc., were published in the Report of the United States Commissioner of Fish and Fisheries for 1888, and a much larger number of analyses of canned vegetables, cereal products, etc., have been reported by the Division of

<sup>1</sup> Nat. Hist. New York, pt. 5, Agr., 2 (1849), p. 90.

<sup>2</sup> Ibid., pp. 37, 55, 295.

<sup>3</sup> Ibid., p. 248.

<sup>4</sup> U. S. Patent Office Rpts., Agr., 1857, pp. 160-165.

<sup>5</sup> On the proximate composition of several varieties of American maize, by W. O. Atwater, *American Journal of Science and Arts*, 47 (1869), No. 11, p. 352.



Chemistry of the United States Department of Agriculture. Many analyses of animal and vegetable food materials have been made in connection with the nutrition investigations carried on under the direction of this Office. In the compilation from which the figures in the present bulletin are taken the results of all these have been included, as well as the analyses, made by W. O. Atwater and associates, of some 500 specimens of food materials at the instance of the World's Columbian Commission and not yet published in detail. Analyses of American food materials made in foreign countries and analyses of foreign food materials made in this country have been included only in exceptional cases.

In collating the material for the present compilation the results of over 1,000 unpublished analyses made in connection with the nutrition investigations conducted with the cooperation of the Storrs (Connecticut) Station and this Department at the chemical laboratory of Wesleyan University have been included, as well as a number of unpublished analyses made by the Maine Station.

No attempt has been made to collect all of the published analyses of milk, butter, and sugars. Such a task would be difficult, because of the large number of analyses made for inspection and otherwise and the number and diversity of the publications in which they are scattered. The figures given in the table on pages 54, 55, and 65 are estimates based upon the data conveniently at hand, and suffice to show the range of variation of the average composition.

The following tabular statement shows the number of specimens of each of the several classes of foods included in this compilation. As a rule figures for the composition of the quarters and sides of meat were calculated from the composition and weight of the cuts making up the larger portion, and are not included in the estimate as direct analyses. The number of sides thus analyzed were, beef, 13; veal, 6; lamb, 3; mutton, 32; pork, 11.

*Number of analyses of specimens of American foods included in the compilation from which the figures in the tables of composition of foods were obtained.*

Food materials.	Food and nutrition investigations.		Division of Chemistry, U. S. Department of Agriculture.	Miscellaneous.	Total.
	Atwater and associates.	Other Investigators.			
ANIMAL FOOD.					
Beef.....	379	148	0	8	535
Veal.....	91	16	0	0	107
Lamb and mutton.....	122	9	0	0	131
Pork.....	120	40	88	0	248
Sausage.....	40	6	0	0	46
Poultry and game.....	23	28	0	0	51
Fish.....	133	10	0	0	143
Shellfish.....	66	6	0	0	72
Eggs.....	20	17	0	53	90
Cheese.....	8	14	8	47	77
Condensed milk.....	4	1	0	28	33
Miscellaneous.....	17	16	0	52	85
Total animal-food materials.....	1,023	311	96	188	1,618

*Number of analyses of specimens of American foods included in the compilation from which the figures in the tables of composition of foods were obtained—Continued.*

Food materials.	Food and nutrition investigations.		Division of Chemistry, U. S. Department of Agriculture.	Miscellaneous.	Total.
	Atwater and associates.	Other investigators.			
VEGETABLE FOOD.					
Flours, meals, etc.:					
Barley, buckwheat, corn, and rye.....	19	51	13	23	106
Oats .....	18	29	7	11	65
Rice .....	4	11	1	15	31
Wheat preparations, etc.....	9	34	16	15	74
Macaroni and vermicelli .....	24	3	4	1	32
Wheat flours.....	57	87	112	59	315
Bread, crackers, and pastry .....	87	262	159	0	508
Sugars and starches .....	4	10	22	12	48
Total flours, sugars, etc.....	222	487	334	136	1,179
Vegetables:					
Beans and other legumes.....	21	45	152	10	228
Roots .....	2	28	29	34	93
Potatoes and sweet potatoes .....	14	34	3	203	254
Other vegetables .....	16	51	125	52	244
Total vegetables .....	53	158	309	299	819
Fruits .....	19	82	16	170	287
Nuts .....	1	1	0	59	61
Total fruits and nuts .....	20	83	16	229	348
Miscellaneous.....	3	21	0	5	29
Total vegetable-food materials.....	298	749	659	666	2,375
UNCLASSIFIED.					
Soups .....	35	3	0	0	38
Miscellaneous.....	4	8	0	20	32
Total unclassified .....	39	11	0	20	70
Total food materials .....	1,360	1,071	755	877	4,063

### EXPLANATION OF TERMS.

The terms used in reporting analyses of foods and feeding stuffs need some explanation. Some of these terms have a technical meaning which is well recognized and understood by scientists, although the dictionaries and similar books of reference have not yet included these uses in their definitions. In other cases the same word has been used by scientists in different ways. The more usual terms are defined and explained below in the sense in which they are employed in this bulletin and other publications of this Office.

### COMPOSITION OF FOOD MATERIALS.

Ordinary food materials, such as meat, fish, eggs, potatoes, wheat, etc., consist of:

*Refuse.*—As the bones of meat and fish, shells of shellfish, skin of potatoes, bran of wheat, etc.

*Edible portion.*—As the flesh of meat and fish, the white and yolk of eggs, wheat flour, etc. This edible portion consists of water (usually

incorporated in the tissue and not visible as such), and nutritive ingredients or nutrients.

The principal kinds of nutritive ingredients are protein, fats, carbohydrates, and ash or mineral matters.

The water and refuse of various foods and the salt of salted meat and fish are called nonnutrients. In comparing the values of different food materials for nourishment they are left out of account.

*Protein.*—This term is used to include nominally the total nitrogenous substance of animal and vegetable food materials, exclusive of the so-called nitrogenous fats. Actually it is employed, in common usage, to designate the product of the total nitrogen by an empirical factor, generally 6.25.

This total nitrogenous substance consists of a great variety of chemical compounds, which are conveniently divided into two principal classes, proteids and nonproteids.

The term proteid, as here employed, includes (1) the simple proteids, e. g., albuminoids, globulins, and their derivatives, such as acid and alkali albumins, coagulated proteids, proteoses, and peptones; (2) the so-called combined or compound proteids; and (3) the so-called gelatinoids (sometimes called "glutinoids") which are characteristic of animal connective tissue.

The term albuminoids has long been used by European and American chemists and physiologists as a collective designation for the substances of the first two groups, though many apply it to all three of these groups. Of late a number of investigators and writers have employed it as a special designation for compounds of the third class.<sup>1</sup>

The term nonproteid is here used synonymously with nonalbuminoid, and includes nitrogenous animal and vegetable compounds of simpler constitution than the proteids. The most important animal compounds of this class are the so-called "nitrogenous extractives" of muscular and connective tissue, such as creatin, creatinin, xanthin, hypoxanthin, and allied cleavage products of the proteids. To some of these the term "meat bases" has been applied. The latter, with certain mineral salts (potassium phosphates, etc.), are the most important constituents of beef tea and many commercial "meat extracts."

The nonproteid nitrogenous compounds in vegetable foods consist of amids and amido acids, of which asparagin and aspartic acid are familiar examples.

The ideal method of analysis of food materials would involve quantitative determinations of the amounts of each of the several kinds or groups of nitrogenous compounds. This, however, is seldom attempted. The common practice is to multiply the percentage of nitrogen by the factor 6.25 and take the product as representing the total nitrogenous

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<sup>1</sup> U. S. Dept. Agr., Office of Experiment Stations Bul. 65, p. 118.



substance. For many materials, animal and vegetable, this factor would be nearly correct for the proteids, which contain, on the average, not far from 16 per cent of nitrogen, although the nitrogen content of the individual proteids is quite varied. The variations in the nitrogen of the nonproteids are wider, and they contain, on the average, more than 16 per cent of nitrogen. It is evident, therefore, that the computation of the total nitrogenous substance in this way is by no means correct. In the flesh of meats and fish, which contain very little of carbohydrates, the nitrogenous substance is frequently estimated by difference, i. e., by subtracting the ether extract and ash from the total water-free substance. While this method is not always correct, it is oftentimes more nearly so than the determination by use of the usual factor.

The distinction between protein and proteids is thus very sharp. The latter are definite chemical compounds, while the former is an entirely arbitrary term used to designate a group which is commonly assumed to include all of the nitrogenous matter of the food except the nitrogenous fats.

In the tables herewith the common usage is followed, by which the protein is given as estimated by factor, i. e., total nitrogen multiplied by 6.25. In the analyses of meats and fish, however, the figures for protein "by difference" are also given. Where the proteid and non-proteid nitrogenous matter have been estimated in a food material the proportions are indicated in a footnote.

*Fats.*—Under fats is included the total ether extract. Familiar examples of fat are fat of meat, fat of milk (butter), oil of corn, olive oil, etc. The ingredients of the "ether extract" of animal and vegetable foods and feeding stuffs, which it is customary to group roughly as fats, include with the true fats various other substances, as fatty acids, lecithins (nitrogenous fats), and chlorophylls.

*Carbohydrates.*—Carbohydrates are usually determined by difference. They include sugars, starches, cellulose, gums, woody fiber, etc. In many instances separate determinations of one or more of these groups have been made. The determinations of "fiber" in vegetable foods, i. e., substances allied to carbohydrates but insoluble in dilute acid and alkali, and somewhat similar to woody fiber, are given in a separate column. The figures in parentheses in the crude-fiber column show the number of analyses in which the fiber was determined. The figures for "total carbohydrates" include the fiber, as well as sugars, starches, etc. Where the sugars or starches have been determined separately footnotes are added giving the average results.

*Ash or mineral matters.*—Under this head are included phosphates, sulphates, chlorids, and other salts of potassium, sodium, magnesium, and other metallic elements. Where analyses of the mineral matters have been found they are added in the form of footnotes. These results usually give the percentage composition of the ash as produced by

incineration rather than the proportions in which the different mineral ingredients occur in the food material.

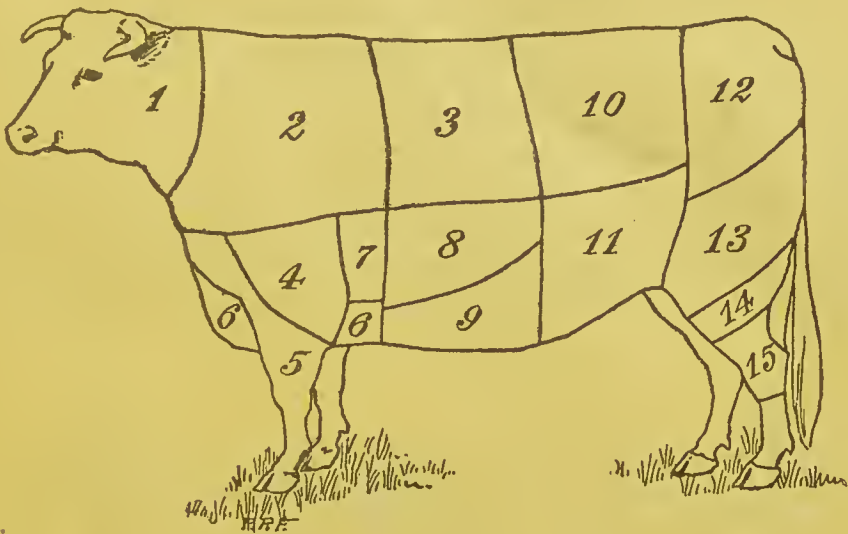
*Fuel value.*—By fuel value is meant the number of calories of heat equivalent to the energy which it is assumed the body would be able to obtain from one pound of a given food material, provided the nutrients of the latter were completely digested. The fuel values of the different food materials are calculated by use of the factors of Rubner, which allow 4.1 calories for a gram of protein, the same for a gram of carbohydrates, and 9.3 calories per gram of fats. These amounts correspond to 18.6 calories of energy for each hundredth of a pound of protein and of carbohydrates, and 42.2 calories for each hundredth of a pound of fat in the given food material. In the following table the fuel value per pound has been calculated by use of these factors. In these calculations the values of protein by factor have been used in all cases with the exception of salt cod (p. 50) and hens' eggs (p. 53), in which the value of protein by difference was used.

#### CUTS OF MEAT.

The methods of cutting sides of beef, veal, mutton, and pork into parts, and the terms used for the different "cuts," as these parts are commonly called, vary in different localities. The analyses here reported apply to cuts as indicated by the following diagrams. These show the positions of the different cuts, both in the live animal and in the dressed carcass as found in the markets. The lines of division between the different cuts will vary slightly, according to the usage of the local market, even where the general method of cutting is as here indicated. The names of the same cuts likewise vary in different parts of the country.

*The cuts of beef.*—The general method of cutting up a side of beef is illustrated in fig. 1, which shows the relative position of the cuts in the animal and in a dressed side. The neck piece is frequently cut so as to include more of the chuck than is represented by the diagrams. The shoulder clod is usually cut without bone, while the shoulder (not indicated in diagram) would include more or less of the shoulder blade and of the upper end of the fore shank. Shoulder steak is cut from the chuck. In many localities the plate is made to include all the parts of the fore quarter designated on the diagrams as brisket, cross-ribs, plate and navel, and different portions of the plate, as thus cut, are spoken of as the "brisket end of plate" and "navel end of plate." This part of the animal is largely used for corning. The ribs are frequently divided into first, second, and third cuts, the latter lying nearest the chuck and being slightly less desirable than the former. The chuck is sometimes subdivided in a similar manner, the third cut of the chuck being nearest the neck. The names applied to different portions of the loin vary considerably in different localities. The part nearest the ribs is frequently called "small end of loin" or "short

steak." The other end of the loin is called "hip sirloin" or "sirloin." Between the short and the sirloin is a portion quite generally called the "tenderloin," for the reason that the real tenderloin, the very tender



1. Neck.
2. Chuck.
3. Ribs.
4. Shoulder clod.
5. Fore shank.
6. Brisket.
7. Cross ribs.
8. Plate.
9. Navel.
10. Loin.
11. Flank.
12. Rump.
13. Round.
14. Second cut round.
15. Hind shank.

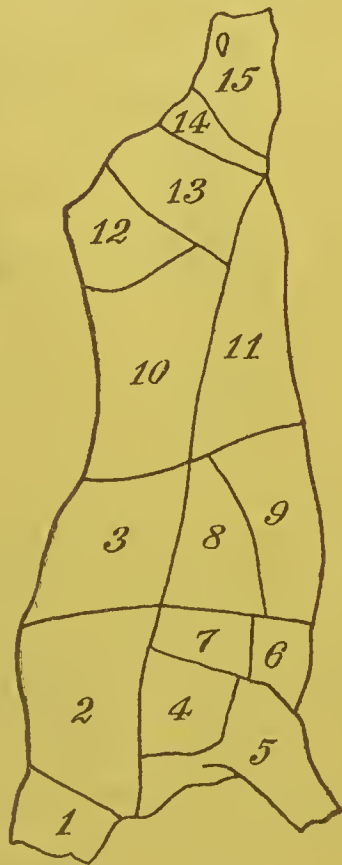


FIG. 1.—Diagrams of cuts of beef.

strip of meat lying inside the loin, is found most fully developed in this cut. Porterhouse steak is a term most frequently applied to either the short steak or the tenderloin. It is not uncommon to find the flank



cut so as to include more of the loin than is indicated in the figures, in which case the upper portion is called "flank steak." The larger part of the flank is, however, very frequently corned, as is also the case with the rump. In some markets the rump is cut so as to include a portion of the loin, which is then sold as "rump steak." The portion of the round on the inside of the leg is regarded as more tender than that on the outside, and is frequently preferred to the latter. As the leg lies upon the butcher's table this inside of the round is usually on the upper, or top, side, and is therefore called "top round." Occasionally the plate is called the "rattle."

*The cuts of veal.*—The method of cutting up a side of veal differs considerably from that employed with beef. This is illustrated by fig. 2, which shows the relative position of the cuts in the animal and

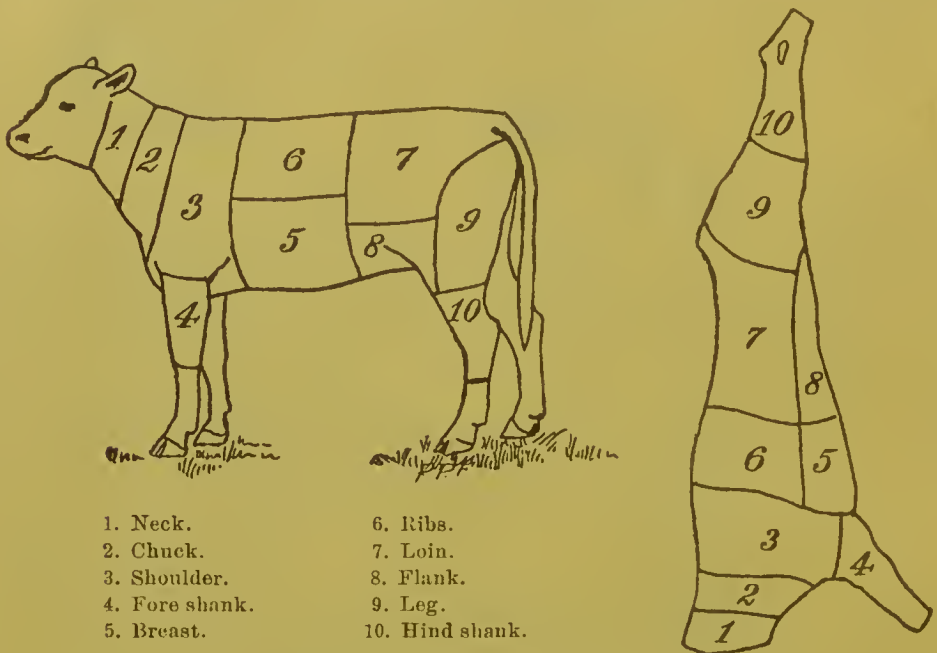


FIG. 2.—Diagrams of cuts of veal.

in a dressed side. The chuck is much smaller in proportion, and frequently no distinction is made between the chuck and the neck. The chuck is often cut so as to include a considerable of the portion here designated as shoulder, following more nearly the method adopted for subdividing beef. The shoulder of veal as here indicated includes, besides the portion corresponding to the shoulder in beef, the larger part of what is here classed as chuck in the adult animal. The under part of the fore quarter, corresponding to the plate in the beef, is often designated as breast in the veal. The part of the veal corresponding to the rump of beef is here included with the loin, but is often cut to form part of the leg. In many localities the fore and hind shanks of veal are called the "knuckles."

*The cuts of lamb and mutton.*—Fig. 3 shows the relative position of the cuts in a dressed side of mutton or lamb and in a live animal. The

cuts in a side of lamb and mutton number but six, three in each quarter. The chuck includes the ribs as far as the end of the shoulder blades, beyond which comes the loin. The flank is made to include all the under side of the animal. Some butchers, however, make a larger number of cuts in the fore quarter, including a portion of the cuts marked "loin" and "chuck" in fig. 3, to make a cut designated as "rib," and a portion of the "flank" and "shoulder" to make a cut designated as "brisket." The term "chops" is ordinarily used to designate portions of either the loin, ribs, chuck or shoulder, which are either cut or "chopped" by the butcher into pieces suitable for frying or broiling. The chuck and ribs are sometimes called the "rack."

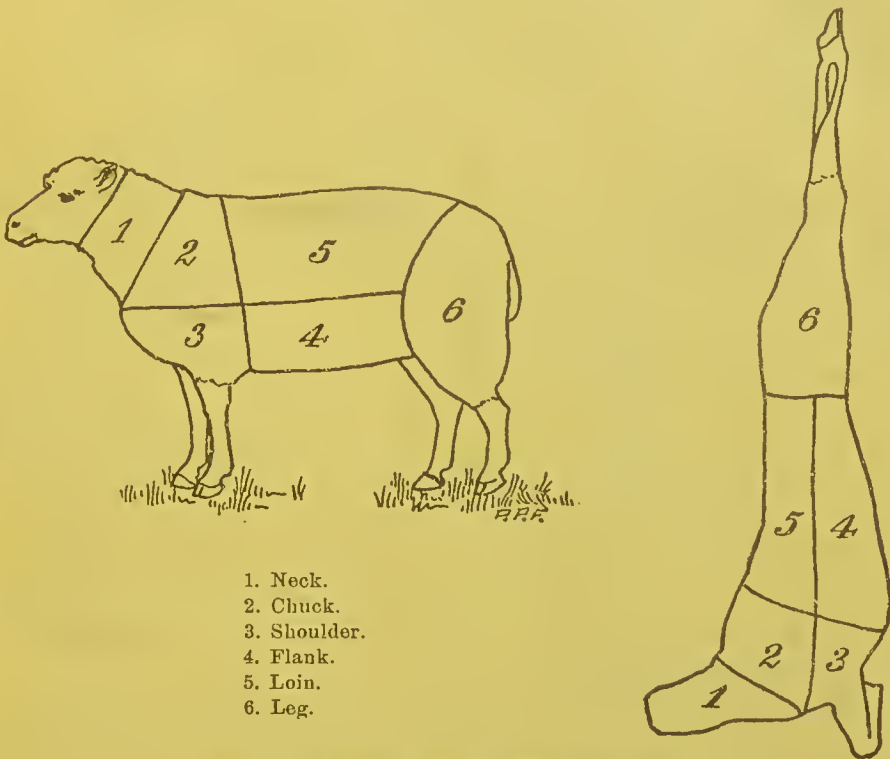


FIG. 3.—Diagrams of cuts of lamb and mutton.

*The cuts of pork.*—The method of cutting up a side of pork differs considerably from that employed with other meats. A large portion of the carcass of a dressed pig consists of almost clear fat. This furnishes the cuts which are used for "salt pork" and bacon. Fig. 4 illustrates a common method of cutting up pork, showing the relative position of the cuts in the animal and in the dressed side. The cut designated as "back cut" is almost clear fat and is used for salting and pickling. The "middle cut" is the portion quite generally used for bacon and for "lean ends" salt pork. The belly is salted or pickled or may be made into sausages.

Beneath the "back cut" are the ribs and loin, from which are obtained "spareribs," "chops," and roasting pieces, here designated

by dotted lines. The hams and shoulders are more frequently cured, but are also sold fresh as pork "steak." The tenderloin proper is a comparatively lean and very small strip of meat lying under the bones of the loin and usually weighing a fraction of a pound. Some fat is usually trimmed off from the hams and shoulders which is called "ham and shoulder fat" and is often used for sausages, etc. What is called

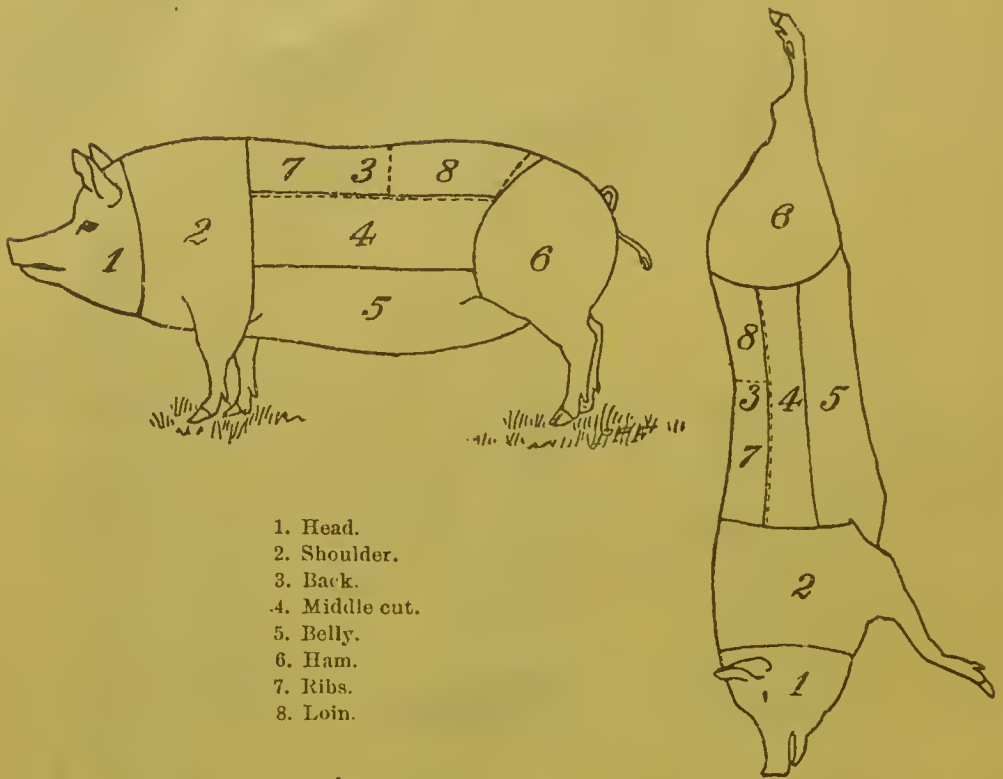


FIG. 4.—Diagrams of cuts of pork.

"leaf lard," at least in some localities, comes from the inside of the back. It is the kidney fat.

As stated above, cuts as shown in the diagrams herewith correspond to those of which analyses are reported in the table beyond, but do not attempt to show the different methods of cutting followed in markets in different parts of the United States.



# CHEMICAL COMPOSITION OF AMERICAN FOOD MATERIALS.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD.									
BEEF, FRESH.									
Brisket, medium fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum.....	3	.....	47.4	13.7	14.6	22.5	.....	0.8	1,265
Maximum.....	3	.....	59.6	17.1	17.0	37.2	.....	.9	1,825
Average.....	3	.....	54.6	15.8	16.0	28.5	.....	.9	1,495
As purchased—									
Minimum.....	3	14.3	39.5	11.5	11.4	18.1	.....	.6	950
Maximum.....	3	30.4	44.7	12.8	12.8	31.9	.....	.7	1,564
Average.....	3	23.3	41.6	12.0	12.2	22.3	.....	.6	1,165
Chuck, including shoulder, very lean:									
Edible portion.....	1	.....	73.8	22.3	21.3	3.9	.....	1.0	580
As purchased.....	1	18.4	60.2	18.2	17.4	3.2	.....	.8	475
Chuck, including shoulder, lean:									
Edible portion—									
Minimum.....	2	.....	71.0	19.8	19.4	7.7	.....	.9	710
Maximum.....	2	.....	71.7	20.6	19.6	8.7	.....	1.0	735
Average.....	2	.....	71.3	20.2	19.5	8.2	.....	1.0	720
As purchased—									
Minimum.....	2	17.4	55.6	15.5	15.2	6.4	.....	.7	575
Maximum.....	2	21.7	59.2	17.0	16.2	6.8	.....	.8	585
Average.....	2	19.5	57.4	16.3	15.7	6.6	.....	.8	580
Chuck, including shoulder, medium fat:									
Edible portion—									
Minimum.....	4	.....	67.1	19.1	18.0	10.1	.....	.9	800
Maximum.....	4	.....	69.5	20.2	19.4	14.0	.....	1.0	945
Average.....	4	.....	68.3	19.6	18.9	11.9	.....	.9	865
As purchased—									
Minimum.....	4	11.8	55.8	15.5	15.2	8.8	.....	.7	630
Maximum.....	4	18.9	60.3	17.5	16.8	12.3	.....	.8	830
Average.....	4	15.2	57.9	16.6	16.0	10.1	.....	.8	735
Chuck, including shoulder, fat:									
Edible portion—									
Minimum.....	4	.....	59.9	17.6	17.7	17.1	.....	.8	1,080
Maximum.....	4	.....	64.2	19.5	18.2	21.1	.....	1.0	1,215
Average.....	4	.....	62.3	18.5	18.0	18.8	.....	.9	1,135
As purchased—									
Minimum.....	3	12.0	48.4	14.2	14.7	14.8	.....	.6	940
Maximum.....	3	19.2	55.9	17.0	16.0	17.1	.....	.8	985
Average.....	3	14.7	53.3	15.9	15.4	15.9	.....	.7	965
Chuck, including shoulder, very fat:									
Edible portion—									
Minimum.....	2	.....	50.7	16.8	16.6	26.1	.....	.8	1,415
Maximum.....	2	.....	55.7	17.5	17.3	31.9	.....	.9	1,670
Average.....	2	.....	53.2	17.2	16.9	29.0	.....	.9	1,555
As purchased—									
Minimum.....	2	11.2	36.5	11.0	11.3	17.1	.....	.6	925
Maximum.....	2	34.5	45.0	15.5	14.8	28.3	.....	.7	1,480
Average.....	2	22.8	40.8	13.3	13.0	22.7	.....	.7	1,205
Chuck, including shoulder, all analyses:									
Edible portion.....	13	.....	65.0	19.2	18.7	15.4	.....	.9	1,005
As purchased.....	12	17.3	54.0	15.8	15.5	12.5	.....	.7	820
Chuck rib, very lean:									
Edible portion.....	1	.....	75.8	22.2	21.7	1.4	.....	1.1	470
As purchased.....	1	16.7	63.1	18.6	18.1	1.2	.....	.9	395

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Chuck rib, lean:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	11	.....	69.7	14.0	14.0	5.8	.....	0.8	625
Maximum .....	11	.....	73.4	20.5	20.5	12.2	.....	1.1	775
Average .....	11	.....	71.3	19.5	19.4	8.3	.....	1.0	715
As purchased—									
Minimum .....	11	16.1	47.6	11.7	11.7	4.5	.....	.7	475
Maximum .....	11	33.1	61.1	17.0	16.9	10.3	.....	.9	655
Average .....	11	22.7	55.1	15.1	15.0	6.4	.....	.8	550
Chuck rib, medium fat:									
Edible portion—									
Minimum .....	7	.....	56.9	17.3	16.9	13.9	.....	.9	930
Maximum .....	7	.....	67.0	19.5	19.5	25.3	.....	1.1	1,390
Average .....	7	.....	62.7	18.5	18.3	18.0	.....	1.0	1,105
As purchased—									
Minimum .....	7	9.8	45.7	13.9	13.5	10.9	.....	.7	720
Maximum .....	7	28.1	60.0	16.5	16.3	20.4	.....	.9	1,120
Average .....	7	16.3	52.6	15.5	15.3	15.0	.....	.8	920
Chuck rib, fat:									
Edible portion—									
Minimum .....	2	.....	51.3	16.5	16.0	30.3	.....	.7	1,585
Maximum .....	2	.....	52.8	16.5	16.1	32.0	.....	.8	1,635
Average .....	2	.....	52.0	16.5	16.1	31.1	.....	.8	1,620
As purchased—									
Minimum .....	2	5.4	43.6	14.0	13.6	27.2	.....	.6	1,405
Maximum .....	2	15.0	50.0	15.6	15.2	28.6	.....	.8	1,495
Average .....	2	10.2	46.8	14.8	14.4	27.9	.....	.7	1,455
Chuck rib, all analyses:									
Edible portion .....	21	.....	66.8	19.0	18.8	13.4	.....	1.0	920
As purchased .....	21	19.1	53.8	15.3	15.2	11.1	.....	.8	755
Chuck, free from all visible fat .....	1	.....	74.1	22.6	22.0	2.8	.....	1.1	540
Flank, very lean:									
Edible portion—									
Minimum .....	3	.....	69.6	22.7	21.2	.7	.....	.9	520
Maximum .....	3	.....	72.1	28.5	27.4	8.3	.....	1.3	770
Average .....	3	.....	70.7	25.9	24.8	3.3	.....	1.2	620
As purchased—									
Minimum .....	3	.7	67.1	22.5	21.0	.7	.....	.9	485
Maximum .....	3	6.9	69.2	27.7	26.6	8.2	.....	1.2	765
Average .....	3	3.5	68.2	24.9	23.9	3.3	.....	1.1	605
Flank, lean:									
Edible portion—									
Minimum .....	3	.....	66.0	20.4	19.4	7.8	.....	.9	710
Maximum .....	3	.....	70.8	21.4	20.4	13.7	.....	1.0	960
Average .....	3	.....	67.8	20.8	19.9	11.3	.....	1.0	865
As purchased—									
Minimum .....	3	.....	64.5	20.1	19.0	7.8	.....	1.0	710
Maximum .....	3	2.3	70.8	21.0	20.4	13.2	.....	1.0	930
Average .....	3	1.4	66.9	20.5	19.7	11.0	.....	1.0	845
Flank, medium fat:									
Edible portion—									
Minimum .....	5	.....	57.4	18.4	17.4	18.7	.....	.8	1,145
Maximum .....	5	.....	62.2	19.5	18.2	24.3	.....	.9	1,370
Average .....	5	.....	60.2	18.9	17.9	21.0	.....	.9	1,240
As purchased—									
Minimum .....	5	1.1	39.8	11.9	11.6	12.2	.....	.6	735
Maximum .....	5	35.8	61.4	19.3	18.0	24.0	.....	.9	1,350
Average .....	5	10.2	54.0	17.0	16.1	19.0	.....	.7	1,115
Flank, fat:									
Edible portion—									
Minimum .....	3	.....	53.5	16.1	15.4	27.2	.....	.8	1,470
Maximum .....	3	.....	54.9	17.8	17.4	30.3	.....	.8	1,580
Average .....	3	.....	54.2	17.1	16.6	28.4	.....	.8	1,515
As purchased—									
Minimum .....	3	.....	49.1	14.8	14.2	26.7	.....	.7	1,445
Maximum .....	3	8.3	54.2	17.0	17.4	27.7	.....	.8	1,495
Average .....	3	3.3	52.4	16.5	16.2	27.3	.....	.8	1,460
Flank, very fat:									
Edible portion—									
Minimum .....	2	.....	27.4	12.5	12.0	43.8	.....	.7	2,135
Maximum .....	2	.....	41.9	15.5	13.6	59.9	.....	.7	2,760
Average .....	2	.....	34.7	14.0	12.8	51.8	.....	.7	2,445

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Flank, very fat—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	2	0.4	24.3	11.0	10.6	43.6	.....	0.6	2,125
Maximum .....	2	11.5	41.8	15.4	13.5	53.0	.....	.7	2,440
Average .....	2	6.0	33.0	13.2	12.0	48.3	.....	.7	2,275
Flank, all analyses:									
Edible portion .....	16	.....	59.3	19.6	18.7	21.1	.....	.9	1,255
As purchased .....	16	5.5	56.1	18.6	17.7	19.9	.....	.8	1,185
Loin, very lean:									
Edible portion—									
Minimum .....	3	.....	70.1	19.5	18.7	1.1	.....	1.0	545
Maximum .....	3	.....	71.3	27.4	27.4	9.0	.....	1.4	745
Average .....	3	.....	70.8	24.6	24.2	3.7	.....	1.3	615
As purchased—									
Minimum .....	3	19.7	49.9	15.5	14.9	.8	.....	.7	395
Maximum .....	3	28.8	57.1	21.5	21.2	7.2	.....	1.1	590
Average .....	3	23.0	54.6	18.8	18.5	3.0	.....	.9	475
Loin, lean:									
Edible portion—									
Minimum .....	12	.....	64.6	13.4	13.1	11.4	.....	.7	735
Maximum .....	12	.....	74.7	24.2	23.1	15.0	.....	1.1	1,000
Average .....	12	.....	67.0	19.7	19.3	12.7	.....	1.0	900
As purchased—									
Minimum .....	11	6.7	52.1	11.9	11.6	10.0	.....	.6	650
Maximum .....	11	21.0	66.2	20.8	19.8	13.0	.....	1.0	865
Average .....	11	13.1	58.2	17.1	16.7	11.1	.....	.9	785
Loin, medium fat:									
Edible portion—									
Minimum .....	32	.....	56.5	10.6	10.6	16.1	.....	.5	1,040
Maximum .....	32	.....	68.3	22.0	22.0	23.7	.....	2.2	1,355
Average .....	32	.....	60.6	18.5	18.2	20.2	.....	1.0	1,190
As purchased—									
Minimum .....	32	4.1	44.4	8.5	8.5	13.7	.....	.4	860
Maximum .....	32	25.8	58.1	19.3	19.1	22.7	.....	1.9	1,300
Average .....	32	13.3	52.5	16.1	15.8	17.5	.....	.9	1,040
Loin, fat:									
Edible portion—									
Minimum .....	6	.....	52.1	16.0	15.8	25.1	.....	.8	1,380
Maximum .....	6	.....	56.9	18.7	17.8	29.6	.....	1.0	1,575
Average .....	6	.....	54.7	17.5	16.8	27.6	.....	.9	1,490
As purchased—									
Minimum .....	6	5.9	44.3	14.1	13.8	23.6	.....	.7	1,295
Maximum .....	6	15.0	53.6	16.5	16.1	25.9	.....	.9	1,400
Average .....	6	10.2	49.2	15.7	15.0	24.8	.....	.8	1,305
Loin, very fat:									
Edible portion—									
Minimum .....	3	.....	46.8	17.2	16.3	31.5	.....	.8	1,650
Maximum .....	3	.....	51.3	18.9	18.5	33.8	.....	.9	1,780
Average .....	3	.....	49.7	17.8	17.1	32.3	.....	.9	1,695
As purchased—									
Minimum .....	3	3.6	40.4	15.1	14.4	27.8	.....	.7	1,455
Maximum .....	3	13.7	49.2	16.6	16.0	30.4	.....	.9	1,590
Average .....	3	9.7	44.9	16.0	15.5	29.1	.....	.8	1,525
Loin, all analyses:									
Edible portion .....	56	.....	61.3	19.0	18.6	19.1	.....	1.0	1,155
As purchased .....	55	13.3	52.9	16.4	16.0	16.9	.....	.9	1,020
Loin, boneless strip, as purchased: <i>a</i>									
Minimum .....	6	.....	50.9	16.9	16.0	4.0	.....	.7	515
Maximum .....	6	.....	77.2	25.0	22.7	32.4	.....	1.2	1,630
Average .....	6	.....	66.3	17.8	16.2	16.7	.....	.8	1,035
Loin, sirloin butt, as purchased: <i>a</i>									
Minimum .....	6	.....	51.6	17.4	16.6	6.4	.....	.8	665
Maximum .....	6	.....	72.1	22.0	20.5	23.5	.....	1.1	1,630
Average .....	6	.....	62.5	19.7	18.9	17.7	.....	.9	1,115
Loin, porterhouse steak: <i>a</i>									
Edible portion .....	7	.....	60.0	21.9	13.6	20.4	.....	1.0	1,270
As purchased .....	7	12.7	52.4	19.1	16.2	17.9	.....	.8	1,110
Loin, sirloin steak: <i>a</i>									
Edible portion .....	21	.....	61.9	18.9	18.6	18.5	.....	1.0	1,130
As purchased .....	21	12.8	54.0	16.5	16.2	16.1	.....	.9	985

*a* All loin parts are included under analyses of "loin."

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Loin, top of sirloin: <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion.....	1	.....	42.2	13.8	13.3	43.7	.....	0.8	2,100
As purchased.....	1	3.2	40.9	13.3	12.9	42.3	.....	.7	2,030
Loin, tenderloin, as purchased: <i>a</i>									
Minimum.....	6	.....	53.5	12.2	11.3	17.2	.....	.5	1,065
Maximum.....	6	.....	66.5	18.3	17.6	29.9	.....	1.0	1,550
Average.....	6	.....	59.2	16.2	15.6	24.4	.....	.8	1,330
Loin trimmings: <i>a</i>									
Edible portion.....	6	.....	55.0	16.9	16.2	28.0	.....	.8	1,495
As purchased.....	6	48.8	27.9	8.5	8.2	14.7	.....	.4	780
Loin, free from all visible fat.....	2	.....	74.0	22.1	21.7	3.1	.....	1.2	540
Navel, very lean:									
Edible portion.....	1	.....	68.6	30.7	29.4	.6	.....	1.4	595
As purchased.....	1	2.9	66.6	29.8	28.5	.6	.....	1.4	580
Navel, medium fat:									
Edible portion.....	1	.....	47.6	15.6	15.1	36.5	.....	.8	1,830
As purchased.....	1	11.4	42.2	13.8	13.4	32.3	.....	.7	1,620
Neck, very lean:									
Edible portion—									
Minimum.....	3	.....	71.8	21.0	20.8	.7	.....	1.0	460
Maximum.....	3	.....	74.0	23.4	24.3	4.9	.....	1.2	640
Average.....	3	.....	73.2	22.6	22.5	3.2	.....	1.1	555
As purchased—									
Minimum.....	3	22.5	18.3	6.2	6.0	.2	.....	.3	125
Maximum.....	3	75.2	57.4	16.2	16.2	3.2	.....	.8	430
Average.....	3	44.3	40.7	12.5	12.2	2.2	.....	.6	325
Neck, lean:									
Edible portion—									
Minimum.....	2	.....	69.3	21.3	20.0	8.0	.....	1.0	735
Maximum.....	2	.....	71.0	21.4	20.9	8.7	.....	1.1	765
Average.....	2	.....	70.1	21.4	20.6	8.4	.....	1.0	750
As purchased—									
Minimum.....	2	29.0	48.5	15.0	14.2	5.7	.....	.7	520
Maximum.....	2	30.0	50.4	15.1	14.6	6.1	.....	.8	535
Average.....	2	29.5	49.5	15.1	14.4	5.9	.....	.7	530
Neck, medium fat:									
Edible portion—									
Minimum.....	10	.....	60.5	18.9	18.4	11.5	.....	.8	870
Maximum.....	10	.....	67.8	22.0	20.4	19.8	.....	1.1	1,195
Average.....	10	.....	63.4	20.1	19.2	10.5	.....	.9	1,070
As purchased—									
Minimum.....	10	19.5	37.8	13.0	12.4	8.6	.....	.5	635
Maximum.....	10	37.5	50.8	17.2	16.0	15.4	.....	.8	930
Average.....	10	27.6	45.9	14.5	13.9	11.9	.....	.7	770
Neck, all analyses:									
Edible portion.....	15	.....	66.3	20.7	20.0	12.7	.....	1.0	920
As purchased.....	15	31.2	45.3	14.2	13.6	9.2	.....	.7	650
Plate, very lean:									
Edible portion—									
Minimum.....	3	.....	67.0	19.5	18.8	.6	.....	.9	540
Maximum.....	3	.....	71.5	27.6	26.6	11.9	.....	1.3	865
Average.....	3	.....	69.1	22.8	22.1	7.7	.....	1.1	750
As purchased—									
Minimum.....	3	18.3	25.5	9.8	9.5	.2	.....	.5	190
Maximum.....	3	64.3	56.1	17.3	16.1	3.7	.....	.8	689
Average.....	3	37.4	43.0	13.0	12.2	5.7	.....	.7	495
Plate, lean:									
Edible portion—									
Minimum.....	3	.....	60.8	8.9	8.6	16.5	.....	.4	860
Maximum.....	3	.....	74.5	19.1	17.8	20.8	.....	.9	1,230
Average.....	3	.....	65.9	15.0	14.6	18.8	.....	.7	1,085
As purchased—									
Minimum.....	3	15.7	51.3	7.2	6.9	13.2	.....	.3	690
Maximum.....	3	19.8	59.8	16.0	14.9	17.5	.....	.7	1,035
Average.....	3	17.3	54.4	13.0	12.2	15.5	.....	.6	895
Plate, medium fat:									
Edible portion—									
Minimum.....	7	.....	48.7	14.8	14.7	23.2	.....	.7	1,280
Maximum.....	7	.....	59.9	18.0	16.7	35.6	.....	.9	1,780
Average.....	7	.....	54.4	16.5	15.7	29.1	.....	.8	1,535

*a* All loin parts are included under analyses of "loin."



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Plate, medium fat—Continued.									
As purchased—	7	<i>P. ct.</i> 13.1	<i>P. ct.</i> 42.2	<i>P. ct.</i> 12.3	<i>P. ct.</i> 12.2	<i>P. ct.</i> 17.6	<i>P. ct.</i> .....	<i>P. ct.</i> 0.6	<i>Cals.</i> 970
Minimum .....	7	24.2	49.0	14.8	14.1	30.9	.....	.8	1,500
Maximum .....	7	16.5	45.3	13.8	13.1	24.4	.....	.7	1,285
Average .....	7								
Plate, fat:									
Edible portion—	3		44.4	13.2	12.4	38.0	.....	.7	1,885
Minimum .....	3		46.3	15.2	15.4	41.9	.....	.8	2,015
Maximum .....	3		45.2	14.6	14.2	39.8	.....	.8	1,950
Average .....	3								
As purchased—									
Minimum .....	3	15.0	36.4	11.2	10.6	32.3	.....	.5	1,595
Maximum .....	3	17.9	39.2	12.4	12.6	35.6	.....	.7	1,710
Average .....	3	16.0	38.0	12.2	11.9	33.5	.....	.6	1,640
Plate, very fat:									
Edible portion .....	1		34.6	10.6	9.8	55.1	.....	.5	2,520
As purchased .....	1	9.0	31.4	9.7	8.9	50.2	.....	.5	2,300
Plate, all analyses:									
Edible portion .....	17		56.3	16.8	16.0	26.9	.....	.8	1,450
As purchased .....	17	19.8	44.4	13.1	12.5	22.7	.....	.6	1,200
Ribs, very lean:									
Edible portion—	4		65.7	21.9	21.1	1.1	.....	.7	455
Minimum .....	4		76.3	28.3	27.4	5.6	.....	1.6	755
Maximum .....	4		70.9	25.0	24.4	3.5	.....	1.2	615
Average .....	4								
As purchased—									
Minimum .....	4	16.5	52.1	16.2	14.7	.7	.....	.5	310
Maximum .....	4	31.7	57.8	23.3	22.8	4.4	.....	1.3	615
Average .....	4	23.3	54.2	19.4	18.9	2.7	.....	.9	475
Ribs, lean:									
Edible portion—	6		66.0	16.5	16.9	9.8	.....	.8	790
Minimum .....	6		69.5	20.9	20.8	14.0	.....	1.1	955
Maximum .....	6		67.9	19.6	19.1	12.0	.....	1.0	870
Average .....	6								
As purchased—									
Minimum .....	6	12.8	46.7	12.1	12.4	6.8	.....	.6	555
Maximum .....	6	32.6	60.7	17.5	17.1	11.0	.....	.9	750
Average .....	6	22.6	52.6	15.2	14.8	9.3	.....	.7	675
Ribs, medium fat:									
Edible portion—	15		49.9	16.2	15.9	18.0	.....	.7	1,110
Minimum .....	15		63.0	18.8	18.1	32.9	.....	1.1	1,700
Maximum .....	15		55.5	17.5	17.0	26.6	.....	.9	1,450
Average .....	15								
As purchased—									
Minimum .....	15	15.3	40.2	12.2	12.0	12.8	.....	.4	1,790
Maximum .....	15	28.7	49.9	14.9	14.6	26.5	.....	.9	1,370
Average .....	15	20.8	43.8	13.9	13.5	21.2	.....	.7	1,155
Ribs, fat:									
Edible portion—	9		47.4	12.0	13.3	33.9	.....	.6	1,710
Minimum .....	9		51.7	16.8	16.5	36.8	.....	.9	1,845
Maximum .....	9		48.5	15.0	15.2	35.6	.....	.7	1,780
Average .....	9								
As purchased—									
Minimum .....	8	14.3	34.3	11.4	10.4	26.8	.....	.5	1,325
Maximum .....	8	22.0	47.8	16.0	15.6	39.9	.....	.7	1,790
Average .....	8	16.8	39.6	12.7	12.4	30.6	.....	.6	1,525
Ribs, very fat:									
Edible portion .....	1		45.9	14.6	14.8	38.7	.....	.6	1,905
As purchased .....	1	6.4	42.9	13.7	13.9	36.2	.....	.6	1,780
Ribs, all analyses:									
Edible portion .....	35		57.0	17.8	17.5	24.6	.....	.9	1,370
As purchased .....	34	20.1	45.3	14.4	13.9	20.0	.....	.7	1,110
Rib rolls, very lean, as purchased:									
Minimum .....	2		73.3	19.6	19.6	4.6	.....	1.0	595
Maximum .....	2		74.0	22.0	21.1	5.4	.....	1.0	605
Average .....	2		73.7	20.8	20.3	5.0	.....	1.0	600
Rib rolls, lean, as purchased:									
Minimum .....	3		67.3	19.3	18.5	8.4	.....	.9	740
Maximum .....	3		70.5	20.8	20.1	13.3	.....	1.0	920
Average .....	3		69.0	20.2	19.5	10.5	.....	1.0	820
Rib rolls, medium fat, as purchased:									
Minimum .....	4		60.7	18.5	18.0	15.3	.....	.9	1,010
Maximum .....	4		65.6	20.1	19.1	20.4	.....	.9	1,205
Average .....	4		63.9	19.3	18.5	16.7	.....	.9	1,065

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N $\times$ 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Rib rolls, fat, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	.....	50.5	16.4	16.3	30.5	.....	0.8	1,590
Maximum	2	.....	52.4	18.0	16.6	32.1	.....	.8	1,690
Average	2	.....	51.5	17.2	16.4	31.3	.....	.8	1,640
Rib rolls, all analyses, as purchased	11	.....	64.8	19.4	18.8	15.5	.....	.9	1,015
Rib trimmings, all analyses:									
Edible portion—									
Minimum	11	.....	33.9	11.2	10.7	6.5	.....	.5	610
Maximum	11	.....	71.6	22.4	20.9	54.9	.....	1.0	2,525
Average	11	.....	54.7	16.9	16.1	28.4	.....	.8	1,515
As purchased—									
Minimum	11	20.9	26.8	8.6	8.4	3.7	.....	.4	395
Maximum	11	44.8	49.2	13.0	12.6	43.5	.....	.6	2,000
Average	11	31.1	35.7	11.0	10.5	19.2	.....	.5	1,015
Ribs, cross, very lean:									
Edible portion	1	.....	65.8	18.0	18.4	14.9	.....	.9	965
As purchased	1	12.8	57.4	15.6	16.1	13.0	.....	.7	840
Ribs, cross, medium fat:									
Edible portion	1	.....	43.9	13.8	13.7	41.6	.....	.8	2,010
As purchased	1	12.2	38.6	12.1	12.0	36.5	.....	.7	1,765
Ribs, cross, all analyses:									
Edible portion	2	.....	54.9	15.9	16.1	28.2	.....	.8	1,485
As purchased	2	12.5	48.0	13.8	14.0	24.8	.....	.7	1,305
Round, very lean:									
Edible portion—									
Minimum	6	.....	72.2	21.1	21.1	1.1	.....	1.0	450
Maximum	6	.....	75.4	24.6	24.4	4.5	.....	1.9	605
Average	6	.....	73.6	22.6	22.3	2.8	.....	1.3	540
As purchased—									
Minimum	6	3.4	61.5	18.4	18.3	.9	.....	1.0	425
Maximum	6	17.4	72.8	21.0	21.4	3.7	.....	1.8	530
Average	6	10.6	65.9	20.2	19.9	2.4	.....	1.2	475
Round, lean:									
Edible portion—									
Minimum	31	.....	65.8	18.8	19.0	5.1	.....	.3	585
Maximum	31	.....	73.6	24.1	23.8	10.0	.....	1.3	835
Average	31	.....	70.0	21.3	21.0	7.9	.....	1.1	730
As purchased—									
Minimum	29	2.8	57.2	17.4	16.9	4.6	.....	.3	565
Maximum	29	17.3	68.8	22.9	22.6	9.4	.....	1.2	795
Average	29	8.1	64.4	19.5	19.2	7.3	.....	1.0	670
Round, medium fat:									
Edible portion—									
Minimum	18	.....	61.9	18.6	18.6	10.6	.....	.9	835
Maximum	18	.....	68.4	22.4	21.6	17.8	.....	1.2	1,095
Average	18	.....	65.5	20.3	19.8	13.6	.....	1.1	950
As purchased—									
Minimum	14	1.2	57.2	17.4	16.8	10.1	.....	.8	790
Maximum	14	11.2	65.9	21.6	20.8	16.6	.....	1.2	1,070
Average	14	7.2	60.7	19.0	18.3	12.8	.....	1.0	895
Round, fat:									
Edible portion—									
Minimum	5	.....	57.8	18.3	17.9	16.7	.....	.9	1,050
Maximum	5	.....	64.5	21.4	20.9	22.3	.....	1.0	1,305
Average	5	.....	60.4	19.5	19.1	19.5	.....	1.0	1,185
As purchased—									
Minimum	3	6.0	47.8	16.7	16.1	14.7	.....	.8	940
Maximum	3	20.0	58.0	18.8	18.5	18.5	.....	.9	1,130
Average	3	12.0	54.0	17.5	17.1	16.1	.....	.8	1,005
Round, very fat:									
Edible portion—									
Minimum	2	.....	54.9	17.2	16.7	24.7	.....	.7	1,400
Maximum	2	.....	56.8	19.1	17.6	27.7	.....	.9	1,490
Average	2	.....	55.9	18.2	17.1	26.2	.....	.8	1,445
As purchased—									
Minimum	2	6.4	45.9	14.4	13.9	23.1	.....	.6	1,245
Maximum	2	16.4	53.2	17.8	16.5	23.2	.....	.8	1,305
Average	2	11.4	49.6	16.1	15.2	23.1	.....	.7	1,275
Round, all analyses:									
Edible portion	62	.....	67.8	20.9	20.5	10.6	.....	1.1	835
As purchased	54	8.5	62.5	19.2	18.8	9.2	.....	1.0	745
Round, free from all visible fat	4	.....	73.5	23.2	23.8	2.5	.....	1.2	535



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Round, second cut:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	2	69.5	20.1	20.4	8.6	.....	1.0	735	
Maximum .....	2	70.0	20.7	20.6	8.6	.....	1.3	745	
Average .....	2	69.8	20.4	20.5	8.6	.....	1.1	740	
As purchased—									
Minimum .....	2	6.9	47.2	14.1	14.0	5.8	.....	.9	505
Maximum .....	2	32.1	65.2	18.7	19.0	8.0	.....	.9	685
Average .....	2	19.5	56.2	16.4	16.5	6.9	.....	.9	595
Rump, very lean:									
Edible portion—									
Minimum .....	4	68.8	21.7	21.2	.7	.....	1.1	520	
Maximum .....	4	74.2	26.5	25.9	8.9	.....	1.4	780	
Average .....	4	71.2	23.0	22.5	5.1	.....	1.2	645	
As purchased—									
Minimum .....	4	1.5	51.4	18.0	17.8	.5	.....	1.0	375
Maximum .....	4	28.6	67.8	21.5	20.9	8.7	.....	1.1	765
Average .....	4	14.3	60.9	19.5	19.1	4.6	.....	1.1	555
Rump, lean:									
Edible portion—									
Minimum .....	4	62.1	17.5	17.7	10.0	.....	.9	840	
Maximum .....	4	68.3	22.7	21.5	17.7	.....	1.1	1,170	
Average .....	4	65.7	20.9	19.6	13.7	.....	1.0	965	
As purchased—									
Minimum .....	3	1.5	46.8	14.5	13.8	7.2	.....	.7	575
Maximum .....	3	31.5	66.4	22.0	21.2	16.1	.....	1.1	1,065
Average .....	3	14.0	56.6	19.1	17.5	11.0	.....	.9	820
Rump, medium fat:									
Edible portion—									
Minimum .....	10	52.4	16.0	15.8	20.3	.....	.8	1,195	
Maximum .....	10	60.3	19.5	18.1	29.9	.....	1.0	1,575	
Average .....	10	56.7	17.4	16.9	25.5	.....	.9	1,400	
As purchased—									
Minimum .....	10	6.6	39.9	11.8	11.5	15.3	.....	.6	920
Maximum .....	10	27.8	52.8	15.8	25.0	25.0	.....	.9	1,305
Average .....	10	20.7	45.0	13.8	13.4	20.2	.....	.7	1,110
Rump, fat:									
Edible portion—									
Minimum .....	5	43.1	14.7	14.5	33.3	.....	.7	1,710	
Maximum .....	5	49.9	22.7	22.4	39.4	.....	1.2	1,960	
Average .....	5	47.1	16.8	16.4	35.7	.....	.8	1,820	
As purchased—									
Minimum .....	5	17.9	33.5	10.7	10.8	23.1	.....	.5	1,175
Maximum .....	5	31.3	39.7	17.6	17.4	32.3	.....	.9	1,605
Average .....	5	23.0	36.2	12.9	12.6	27.6	.....	.6	1,405
Rump, very fat:									
Edible portion .....	1	40.2	15.0	14.7	44.3	.....	.8	2,150	
As purchased .....	1	16.2	33.7	12.6	12.3	37.2	.....	.6	1,805
Rump, all analyses:									
Edible portion .....	24	57.9	18.7	18.1	23.1	.....	.9	1,325	
As purchased .....	23	19.0	46.9	15.2	14.7	18.6	.....	.8	1,065
Rump, free from all visible fat .....	1	73.9	21.2	21.2	3.8	.....	1.1	555	
Shank, fore, very lean:									
Edible portion—									
Minimum .....	4	73.5	21.3	20.8	1.5	.....	1.0	480	
Maximum .....	4	75.9	22.9	22.7	4.0	.....	1.2	565	
Average .....	4	74.4	22.1	21.7	2.8	.....	1.1	530	
As purchased—									
Minimum .....	4	35.9	36.5	10.5	10.6	.8	.....	.5	240
Maximum .....	4	50.4	47.9	13.9	13.6	2.3	.....	.7	355
Average .....	4	44.1	41.6	12.3	12.1	1.6	.....	.6	295
Shank, fore, lean:									
Edible portion—									
Minimum .....	5	69.9	20.9	20.1	5.3	.....	.9	615	
Maximum .....	5	73.2	24.4	23.3	7.9	.....	1.1	735	
Average .....	5	71.5	22.0	21.4	6.1	.....	1.0	665	
As purchased—									
Minimum .....	5	25.6	36.4	11.5	11.7	3.3	.....	.4	360
Maximum .....	5	48.0	52.3	18.1	17.4	5.2	.....	.8	500
Average .....	5	36.5	45.4	14.0	13.6	3.9	.....	.6	425

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Shank, fore, medium fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	5	.....	65.5	19.9	19.2	9.9	.....	0.9	806
Maximum .....	5	.....	70.0	21.0	20.2	14.2	.....	1.0	970
Average .....	5	.....	67.9	20.4	19.6	11.6	.....	.9	870
As purchased—									
Minimum .....	5	33.0	39.3	11.9	11.6	6.1	.....	.6	495
Maximum .....	5	40.0	45.3	13.4	13.1	8.5	.....	.6	585
Average .....	5	36.9	42.9	12.8	12.3	7.3	.....	.6	545
Shank, fore, very fat:									
Edible portion .....	1	.....	59.0	20.1	18.6	21.6	.....	.8	1,285
As purchased .....	1	30.9	40.7	13.9	12.9	14.9	.....	.6	890
Shank, fore, all analyses:									
Edible portion .....	15	.....	70.3	21.4	20.7	8.1	.....	.9	740
As purchased .....	15	38.3	43.2	13.2	12.7	5.2	.....	.6	465
Shank, hind, very lean:									
Edible portion .....	1	.....	71.2	26.6	25.8	1.7	.....	1.3	565
As purchased .....	1	50.0	35.6	13.3	12.9	.8	.....	.7	280
Shank, hind, lean:									
Edible portion—									
Minimum .....	6	.....	71.3	20.8	20.4	4.3	.....	.9	590
Maximum .....	6	.....	73.6	23.1	21.6	7.3	.....	1.2	715
Average .....	6	.....	72.5	21.9	21.1	5.4	.....	1.0	635
As purchased—									
Minimum .....	6	50.0	22.8	6.6	6.7	1.7	.....	.8	205
Maximum .....	6	68.3	36.4	11.2	10.7	3.2	.....	.5	315
Average .....	6	58.5	30.1	9.1	8.8	2.2	.....	.4	260
Shank, hind, medium fat:									
Edible portion—									
Minimum .....	6	.....	65.3	19.0	18.5	9.6	.....	.8	800
Maximum .....	6	.....	69.5	21.8	20.6	15.4	.....	1.0	1,005
Average .....	6	.....	67.8	20.9	19.8	11.5	.....	.9	875
As purchased—									
Minimum .....	6	52.0	29.8	8.8	8.6	4.5	.....	.4	370
Maximum .....	6	56.0	33.1	10.1	9.6	7.1	.....	.4	460
Average .....	6	53.9	31.3	9.6	9.1	5.3	.....	.4	405
Shank, hind, fat:									
Edible portion .....	1	.....	61.4	20.4	18.9	18.8	.....	.9	1,170
As purchased .....	1	51.6	29.7	9.9	9.2	9.1	.....	.4	570
Shank, hind, all analyses:									
Edible portion .....	14	.....	69.6	21.7	20.7	8.7	.....	1.0	770
As purchased .....	14	55.4	31.0	9.7	9.3	3.9	.....	.4	345
Shoulder and clod, very lean : a									
Edible portion—									
Minimum .....	4	.....	75.1	20.8	20.4	.8	.....	1.1	420
Maximum .....	4	.....	77.7	21.6	22.4	1.5	.....	1.2	460
Average .....	4	.....	76.1	21.3	21.5	1.3	.....	1.1	450
As purchased—									
Minimum .....	4	12.5	46.1	12.8	12.5	.6	.....	.7	275
Maximum .....	4	39.8	65.8	18.8	19.6	1.2	.....	1.0	395
Average .....	4	23.3	58.3	16.3	16.5	1.0	.....	.9	345
Shoulder and clod, lean:									
Edible portion—									
Minimum .....	5	.....	71.4	19.2	19.7	4.7	.....	1.0	555
Maximum .....	5	.....	74.5	22.1	21.9	6.7	.....	1.1	680
Average .....	5	.....	73.1	20.4	20.4	5.4	.....	1.1	605
As purchased—									
Minimum .....	4	5.6	69.4	9.2	9.3	2.6	.....	.4	280
Maximum .....	4	53.4	34.3	19.3	19.3	6.1	.....	1.1	615
Average .....	4	18.8	59.4	16.4	16.5	4.4	.....	.9	490
Shoulder and clod, medium fat:									
Edible portion—									
Minimum .....	14	.....	64.0	17.4	17.3	7.1	.....	.8	625
Maximum .....	14	.....	74.5	20.7	20.7	16.4	.....	1.4	1,030
Average .....	14	.....	68.3	19.6	19.3	11.3	.....	1.1	840
As purchased—									
Minimum .....	12	7.0	50.7	14.5	14.3	5.6	.....	.7	520
Maximum .....	12	27.7	62.3	18.6	18.4	14.4	.....	1.1	925
Average .....	12	16.4	56.8	16.4	16.1	9.8	.....	.9	720

<sup>a</sup> Tho "clod" usually contains no refuse.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Shoulder and clod, fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	5	.....	56.2	18.1	17.1	18.5	.....	0.9	1,120
Maximum .....	5	.....	62.1	21.9	21.0	21.0	.....	1.2	1,320
Average .....	5	.....	60.4	19.5	18.8	19.8	.....	1.0	1,200
As purchased—									
Minimum .....	3	11.0	49.9	17.7	14.8	16.5	.....	.8	1,025
Maximum .....	3	13.3	54.8	19.4	18.6	19.2	.....	1.0	1,170
Average .....	3	11.9	52.8	17.7	16.7	17.7	.....	.9	1,075
Shoulder and clod, all analyses:									
Edible portion .....	28	.....	68.9	20.0	19.7	10.3	.....	1.1	805
As purchased .....	23	17.4	57.0	16.5	16.3	8.4	.....	.9	660
Shoulder, free from all visible fat .....	1	.....	74.6	21.6	21.5	2.7	.....	1.2	515
Socket:									
Edible portion .....	1	.....	57.1	16.9	16.7	25.2	.....	1.0	1,380
As purchased .....	1	35.8	36.7	10.8	10.7	16.2	.....	.6	885
Forequarter, very lean:									
Edible portion—									
Minimum .....	2	.....	72.3	21.9	20.8	1.1	.....	.9	460
Maximum .....	2	.....	76.0	22.3	21.8	6.0	.....	1.1	660
Average .....	2	.....	74.1	22.1	21.3	3.6	.....	1.0	565
As purchased—									
Minimum .....	2	23.2	47.5	14.0	13.7	.7	.....	.7	290
Maximum .....	2	37.4	55.5	16.8	16.0	4.6	.....	.7	505
Average .....	2	30.3	51.5	15.4	14.8	2.7	.....	.7	400
Forequarter, lean:									
Edible portion—									
Minimum .....	4	.....	67.5	16.5	16.1	11.4	.....	.7	815
Maximum .....	4	.....	71.1	20.0	19.4	12.7	.....	.9	910
Average .....	4	.....	68.6	18.9	18.4	12.2	.....	.8	865
As purchased—									
Minimum .....	4	19.7	52.1	12.4	12.1	8.7	.....	.5	615
Maximum .....	4	24.9	54.3	16.0	15.3	10.0	.....	.7	720
Average .....	4	22.3	53.3	14.7	14.3	9.5	.....	.6	675
Forequarter, medium fat:									
Edible portion—									
Minimum .....	10	.....	54.1	17.2	15.9	17.1	.....	.8	1,075
Maximum .....	10	.....	63.6	19.1	18.4	27.6	.....	1.0	1,485
Average .....	10	.....	60.4	17.9	17.3	21.4	.....	.9	1,235
As purchased—									
Minimum .....	10	16.8	44.1	13.7	13.2	13.6	.....	.6	855
Maximum .....	10	23.9	51.9	15.3	14.6	22.5	.....	.8	1,210
Average .....	10	18.7	49.1	14.5	14.0	17.5	.....	.7	1,010
Forequarter, fat:									
Edible portion .....	1	.....	53.5	15.9	15.8	30.0	.....	.7	1,560
As purchased .....	1	21.7	41.9	12.5	12.4	23.4	.....	.6	1,220
Forequarter, very fat:									
Edible portion .....	1	.....	44.6	15.0	14.0	40.7	.....	.7	1,995
As purchased .....	1	12.6	41.5	12.4	13.6	31.7	.....	.6	1,570
Forequarter, all analyses:									
Edible portion .....	18	.....	62.5	18.3	17.7	18.9	.....	.9	1,135
As purchased .....	18	20.6	49.5	14.4	14.1	15.1	.....	.7	905
Hind quarter, very lean:									
Edible portion—									
Minimum .....	2	.....	71.7	21.8	20.8	1.1	.....	1.1	535
Maximum .....	2	.....	72.4	26.3	25.8	5.8	.....	1.4	650
Average .....	2	.....	72.0	24.0	23.3	3.5	.....	1.2	595
As purchased—									
Minimum .....	2	18.8	55.1	17.8	16.9	.8	.....	.8	410
Maximum .....	2	23.2	58.7	20.1	19.9	4.8	.....	1.0	535
Average .....	2	21.0	56.9	19.0	18.4	2.8	.....	.9	470
Hind quarter, lean:									
Edible portion—									
Minimum .....	4	.....	64.6	19.3	18.8	12.2	.....	1.0	890
Maximum .....	4	.....	67.5	20.6	19.5	14.9	.....	1.0	990
Average .....	4	.....	66.3	20.0	19.3	13.4	.....	1.0	935
As purchased—									
Minimum .....	4	16.2	53.8	16.0	15.6	10.2	.....	.8	750
Maximum .....	4	17.0	56.5	17.3	16.3	12.4	.....	.9	820
Average .....	4	16.6	55.3	16.7	16.1	11.2	.....	.8	785



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, FRESH—continued.									
Hind quarter, medium fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	11	.....	55.7	17.2	15.9	16.8	.....	0.8	1,070
Maximum	11	.....	63.9	19.5	18.7	26.6	.....	1.0	1,430
Average	11	.....	59.8	18.3	17.7	21.6	.....	.9	1,250
As purchased—									
Minimum	11	13.8	44.4	13.7	13.6	14.3	.....	.6	910
Maximum	11	20.2	54.3	16.5	15.8	22.6	.....	.8	1,205
Average	11	15.7	50.4	15.4	14.9	18.3	.....	.7	1,060
Hind quarter, fat:									
Edible portion	1	.....	52.1	17.7	16.4	30.7	.....	.8	1,625
As purchased	1	12.4	45.6	15.5	14.4	26.9	.....	.7	1,425
Hind quarter, all analyses:									
Edible portion	18	.....	62.2	19.3	18.6	18.3	.....	.9	1,130
As purchased	18	16.3	52.0	16.1	15.5	15.4	.....	.8	950
Sides, very lean:									
Edible portion—									
Minimum	2	.....	72.4	21.8	20.8	1.1	.....	.9	500
Maximum	2	.....	73.8	24.3	23.9	5.9	.....	1.2	655
Average	2	.....	73.1	23.0	22.3	3.5	.....	1.1	575
As purchased—									
Minimum	2	21.2	51.1	16.9	16.4	.7	.....	.7	345
Maximum	2	30.7	57.0	17.2	16.6	4.7	.....	.9	520
Average	2	26.0	54.0	17.0	16.5	2.7	.....	.8	430
Sides, lean:									
Edible portion—									
Minimum	4	.....	66.5	17.6	17.1	12.3	.....	.8	905
Maximum	4	.....	67.5	20.3	19.3	14.8	.....	1.0	950
Average	4	.....	67.2	19.3	18.7	13.2	.....	.9	915
As purchased—									
Minimum	4	18.0	52.9	13.9	13.6	10.1	.....	.6	730
Maximum	4	20.8	55.3	16.5	15.8	11.7	.....	.8	755
Average	4	19.5	54.1	15.5	15.1	10.6	.....	.7	735
Sides, medium fat:									
Edible portion—									
Minimum	11	.....	54.8	17.2	16.5	15.7	.....	.8	1,020
Maximum	11	.....	64.9	19.3	18.6	27.1	.....	.9	1,465
Average	11	.....	59.7	18.1	17.4	22.0	.....	.9	1,265
As purchased—									
Minimum	11	15.5	44.2	13.9	13.7	12.7	.....	.7	830
Maximum	11	21.8	53.1	15.8	15.1	21.9	.....	.8	1,185
Average	11	17.4	49.4	14.8	14.4	18.1	.....	.7	1,040
Sides, very fat:									
Edible portion	1	.....	47.8	16.2	15.1	36.4	.....	.7	1,835
As purchased	1	13.2	41.5	14.0	13.1	31.6	.....	.6	1,595
Sides, all analyses:									
Edible portion	18	.....	62.2	18.8	18.1	18.8	.....	.9	1,145
As purchased	18	18.6	50.5	15.2	14.7	15.5	.....	.7	935
Miscellaneous cuts, free from all visible fat <i>a</i> .	11	.....	73.8	22.4	22.1	2.9	.....	1.2	540
Clear fat	7	.....	13.4	4.1	4.1	82.1	.....	.4	3,540
Soup stock	1	.....	89.1	.....	5.8	1.5	.....	3.6	170
BEEF ORGANS.									
Brain, edible portion	1	.....	80.6	8.8	9.0	9.3	.....	1.1	555
Heart:									
Edible portion—									
Minimum	2	.....	56.5	15.7	15.8	14.6	.....	.9	920
Maximum	2	.....	68.7	16.3	16.3	26.2	.....	1.0	1,395
Average	2	.....	62.6	16.0	16.0	20.4	.....	1.0	1,160
As purchased	1	5.9	53.2	14.8	15.3	24.7	.....	.9	1,320
Kidney:									
Edible portion—									
Minimum	3	.....	75.7	15.8	16.1	2.4	.....	1.1	420
Maximum	3	.....	78.7	17.1	17.6	7.1	.....	1.3	595
Average	3	.....	76.7	16.6	16.9	4.8	.4	1.2	520
As purchased	1	19.9	63.1	13.7	14.1	1.9	.....	1.0	335
Beef liver:									
Edible portion—									
Minimum	6	.....	69.5	18.1	18.8	3.3	1.0	1.3	520
Maximum	6	.....	75.0	23.1	23.4	5.7	3.5	2.5	670
Average	6	.....	71.2	20.4	21.0	4.5	1.7	1.6	605
As purchased	1	7.3	65.6	20.2	20.2	3.1	2.5	1.3	555

*a* Includes those given under "chuck," "round," "loin," etc.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF ORGANS—continued.									
		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Lungs, as purchased	1	.....	79.7	16.4	16.1	3.2	.....	1.0	440
Marrow, as purchased	1	.....	3.3	2.2	2.6	92.8	.....	1.3	3,955
Sweetbreads, as purchased	1	.....	70.9	16.8	15.4	12.1	.....	1.6	825
Suet, as purchased:									
Minimum	9	.....	4.3	1.1	1.0	70.7	.....	.2	3,110
Maximum	9	.....	21.9	7.5	7.2	94.5	.....	.7	4,010
Average	9	.....	13.7	4.7	4.2	81.8	.....	.3	3,540
Tongue:									
Edible portion--									
Minimum	3	.....	63.5	17.0	17.4	.8	.....	.9	445
Maximum	3	.....	76.2	22.2	21.9	18.0	.....	1.1	1,075
Average	3	.....	70.8	18.9	19.0	9.2	.....	1.0	740
As purchased—									
Minimum	3	9.2	32.4	7.8	7.9	.7	.....	.4	315
Maximum	3	55.3	69.2	20.2	19.9	15.3	.....	1.0	915
Average	3	26.5	51.8	14.1	14.2	6.7	.....	.8	545
BEEF, COOKED.									
Cut not given, boiled, as purchased	1	.....	38.1	26.2	26.1	34.9	.....	.9	2,805
Scraps, as purchased:									
Minimum	2	.....	4.5	16.3	19.0	27.7	.....	.7	1,660
Maximum	2	.....	41.9	26.4	24.2	75.8	.....	6.2	3,500
Average	2	.....	23.2	21.4	21.6	51.7	.....	3.5	2,580
Roast, as purchased:									
Minimum	7	.....	38.7	15.1	14.5	19.6	.....	.7	1,210
Maximum	7	.....	59.5	29.0	29.7	41.4	.....	2.7	2,030
Average	7	.....	48.2	22.3	21.9	28.6	.....	1.3	1,620
Pressed, as purchased	1	.....	44.1	23.6	26.7	27.7	.....	1.5	1,610
Round steak, fat removed, as purchased:									
Minimum	18	.....	53.5	19.4	20.3	3.3	.....	1.1	615
Maximum	18	.....	72.3	34.1	34.1	16.9	.....	3.1	1,170
Average	18	.....	63.0	27.6	27.5	7.7	.....	1.8	840
Sirloin steak, baked, as purchased	1	.....	63.7	23.9	24.7	10.2	.....	1.4	875
Loin steak, tenderloin, broiled, edible portion:									
Minimum	6	.....	42.7	19.8	20.6	11.8	.....	1.0	925
Maximum	6	.....	64.5	26.7	26.6	35.7	.....	1.4	1,875
Average	6	.....	54.8	23.5	23.6	20.4	.....	1.2	1,300
Sandwich meat, as purchased:									
Minimum	3	.....	56.3	27.1	27.2	8.0	.....	2.5	870
Maximum	3	.....	61.2	28.6	28.8	13.6	.....	3.1	1,075
Average	3	.....	58.3	28.0	27.9	11.0	.....	2.8	985
BEEF, CANNED.									
Boiled beef, as purchased	1	.....	51.8	25.5	24.4	22.5	.....	1.3	1,425
Cheek, ox, as purchased	1	.....	66.1	22.2	22.3	8.4	.....	3.2	765
Chili-con-carne, as purchased	1	.....	75.4	13.3	13.3	4.6	4.0	2.7	515
Collaps, minced, as purchased	1	.....	72.3	17.8	17.9	6.8	1.1	1.9	640
Corned beef:									
Minimum	15	.....	43.2	20.7	19.6	11.7	.....	2.0	1,000
Maximum	15	.....	58.3	35.1	34.2	31.1	.....	7.3	1,695
Average	15	.....	51.8	26.3	25.5	18.7	.....	4.0	1,280
Dried beef, as purchased:									
Minimum	2	.....	44.2	38.0	37.1	6.1	.....	9.8	955
Maximum	2	.....	45.3	40.4	40.1	4.8	.....	12.6	965
Average	2	.....	44.8	39.2	38.6	5.4	.....	11.2	960
Kidneys, stewed, as purchased:									
Minimum	2	.....	70.9	14.6	.....	4.9	.....	2.1	580
Maximum	2	.....	72.9	22.1	.....	5.4	4.3	2.8	620
Average	2	.....	71.9	18.4	.....	5.1	2.1	2.5	600
Luncheon beef, as purchased	1	.....	52.9	27.6	26.4	15.9	.....	4.8	1,185
Palates, ox, as purchased:									
Minimum	2	.....	69.6	16.4	15.9	9.4	.....	.4	750
Maximum	2	.....	73.1	19.3	19.0	10.6	.....	2.0	755
Average	2	.....	71.4	17.8	17.4	10.0	.....	1.2	755
Roast beef, as purchased:									
Minimum	4	.....	55.8	20.3	19.3	9.0	.....	1.2	935
Maximum	4	.....	62.8	20.8	30.0	23.6	.....	1.4	1,375
Average	4	.....	58.9	25.9	25.0	14.8	.....	1.3	1,105
Rump steak, as purchased	1	.....	56.3	24.3	23.5	18.7	.....	1.5	1,240
Sweetbreads, as purchased	1	.....	69.0	20.2	19.5	9.5	.....	2.0	775

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, CANNED—continued.									
Tails, ox:									
Edible portion.....	1	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
As purchased.....	1	29.7	47.7	18.5	17.3	4.5	.....	1.2	755
Tongue, ground, as purchased:									
Minimum.....	6	.....	42.5	20.1	20.2	21.6	.....	2.9	1,305
Maximum.....	6	.....	54.9	23.6	22.8	32.6	.....	5.1	1,750
Average.....	6	.....	49.9	21.4	21.0	25.1	.....	4.0	1,455
Tongue, whole, as purchased:									
Minimum.....	5	.....	42.4	10.8	18.6	15.7	.....	3.0	865
Maximum.....	5	.....	57.4	23.4	23.0	32.7	.....	6.3	1,725
Average.....	5	.....	51.3	19.5	21.5	23.2	.....	4.0	1,340
Tripe, as purchased:									
Minimum.....	2	.....	68.9	16.5	16.2	2.6	.....	.4	425
Maximum.....	2	.....	80.2	17.0	16.6	14.5	.....	.6	920
Average.....	2	.....	74.6	16.8	16.4	8.5	.....	.5	670
BEEF, CORNED AND PICKLED.									
Brisket:									
Edible portion.....	1	.....	50.9	18.3	18.7	24.7	.....	5.7	1,385
As purchased.....	1	21.4	40.0	14.4	14.7	19.4	.....	4.5	1,085
Flank:									
Edible portion—									
Minimum.....	2	.....	43.2	13.1	12.9	24.9	.....	2.8	1,350
Maximum.....	2	.....	56.5	16.1	15.5	41.1	.....	3.1	1,980
Average.....	2	.....	49.9	14.6	14.2	33.0	.....	2.9	1,665
As purchased—									
Minimum.....	2	9.6	39.0	11.9	11.7	21.2	.....	2.5	1,150
Maximum.....	2	14.6	48.3	13.8	13.2	37.2	.....	2.7	1,790
Average.....	2	12.1	43.7	12.9	12.4	29.2	.....	2.6	1,470
Plate:									
Edible portion.....	1	.....	40.1	13.7	13.3	41.9	.....	4.7	2,025
As purchased.....	1	14.5	34.3	11.7	11.4	35.8	.....	4.0	1,730
Rump:									
Edible portion—									
Minimum.....	3	.....	50.2	13.3	13.3	13.0	.....	2.0	880
Maximum.....	3	.....	65.9	17.8	18.1	30.2	.....	4.9	1,550
Average.....	3	.....	58.1	15.3	15.3	23.3	.....	3.3	1,270
As purchased—									
Minimum.....	3	5.0	47.5	12.6	12.6	12.1	.....	1.9	815
Maximum.....	3	7.7	60.8	16.4	16.7	28.5	.....	4.7	1,460
Average.....	3	6.0	54.5	14.3	14.4	22.0	.....	3.1	1,195
Extra family beef:									
Edible portion.....	1	.....	37.0	12.3	11.8	47.2	.....	4.0	2,220
As purchased.....	1	10.4	33.1	11.1	10.6	42.3	.....	3.6	1,990
Mess beef, salted:									
Edible portion—									
Minimum.....	2	.....	31.7	11.3	10.6	40.2	.....	4.1	1,955
Maximum.....	2	.....	42.4	13.8	13.3	48.7	.....	9.0	2,265
Average.....	2	.....	37.0	12.6	12.0	44.5	.....	6.5	2,110
As purchased—									
Minimum.....	2	7.1	29.5	10.5	9.8	34.6	.....	3.5	1,680
Maximum.....	2	13.8	36.6	11.9	11.5	45.3	.....	3.8	2,105
Average.....	2	10.5	33.0	11.2	10.7	39.9	.....	5.9	1,890
Corned beef, all analyses:									
Edible portion.....	10	.....	53.6	15.6	15.3	26.2	.....	4.9	1,395
As purchased.....	10	8.4	49.2	14.3	14.0	23.8	.....	4.6	1,271
Spiced beef, rolled, as purchased.....	1	.....	30.0	12.0	11.8	51.4	.....	6.8	2,390
Tongues, pickled:									
Edible portion—									
Minimum.....	2	.....	50.9	8.3	8.0	15.3	.....	3.1	800
Maximum.....	2	.....	73.6	17.3	17.0	25.8	.....	6.3	1,410
Average.....	2	.....	62.3	12.8	12.5	20.5	.....	4.7	1,105
As purchased—									
Minimum.....	2	2.1	45.8	8.2	7.8	15.0	.....	3.1	785
Maximum.....	2	10.0	72.0	15.6	15.3	23.3	.....	5.6	1,275
Average.....	2	6.0	58.9	11.9	11.6	19.2	.....	4.3	1,030
Tripe, as purchased:									
Minimum.....	4	.....	.....	7.1	7.2	.9	0.4	.1	185
Maximum.....	4	.....	91.1	18.6	18.3	1.8	.5	.4	335
Average.....	4	.....	86.5	11.7	11.8	1.2	.2	.3	270



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
BEEF, DRIED, ETC.									
Dried, salted, and smoked:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum.....	7	.....	24.3	24.4	24.4	2.8	.....	6.3	570
Maximum.....	7	.....	65.4	47.8	47.0	11.8	2.7	16.9	920
Average.....	7	.....	54.3	30.0	29.7	6.5	(3).4	9.1	840
As purchased—									
Minimum.....	2	4.4	52.2	25.6	25.0	6.0	.....	7.8	760
Maximum.....	2	5.0	55.1	27.3	26.7	7.8	.....	10.0	805
Average.....	2	4.7	53.7	26.4	25.8	6.9	.....	8.9	780
VEAL, FRESH.									
Breast, very lean:									
Edible portion.....	1	.....	73.2	23.1	23.1	2.5	.....	1.2	535
As purchased.....	1	46.8	38.9	12.3	12.3	1.3	.....	.7	285
Breast, lean:									
Edible portion—									
Minimum.....	3	.....	68.4	19.6	18.8	8.0	.....	1.0	700
Maximum.....	3	.....	72.2	22.9	22.5	8.0	.....	1.1	765
Average.....	3	.....	70.3	21.2	20.7	8.0	.....	1.0	730
As purchased—									
Minimum.....	3	15.1	46.8	15.4	15.7	5.5	.....	.7	525
Maximum.....	3	31.6	61.3	16.0	16.6	6.8	.....	.8	595
Average.....	3	23.4	54.0	15.7	16.1	6.2	.....	.7	560
Breast, medium fat:									
Edible portion—									
Minimum.....	5	.....	65.1	19.1	18.2	12.0	.....	1.0	870
Maximum.....	5	.....	68.4	19.9	19.4	15.4	.....	1.0	1,010
Average.....	5	.....	66.4	19.4	18.8	13.8	.....	1.0	930
As purchased—									
Minimum.....	5	15.7	48.5	14.2	14.0	9.4	.....	.7	680
Maximum.....	5	25.4	55.7	16.9	16.2	12.8	.....	.8	855
Average.....	5	20.6	52.7	15.6	14.9	11.0	.....	.8	740
Breast, all analyses:									
Edible portion.....	8	.....	68.2	20.3	19.8	11.0	.....	1.0	840
As purchased.....	8	24.5	51.3	15.3	14.8	8.0	.....	.8	645
Chuck, lean:									
Edible portion.....	1	.....	76.3	.....	20.6	1.9	.....	1.2	465
As purchased.....	1	19.0	61.8	.....	16.7	1.6	.....	.9	380
Chuck, medium fat:									
Edible portion—									
Minimum.....	6	.....	71.5	19.1	18.2	5.1	.....	1.0	570
Maximum.....	6	.....	75.4	21.1	20.6	8.5	.....	1.0	715
Average.....	6	.....	73.3	19.7	19.2	6.5	.....	1.0	640
As purchased—									
Minimum.....	6	17.6	57.9	15.4	14.5	4.2	.....	.8	465
Maximum.....	6	20.0	61.4	17.1	16.2	6.8	.....	.8	585
Average.....	6	18.9	59.5	16.0	15.6	5.2	.....	.8	515
Chuck, all analyses:									
Edible portion.....	7	.....	73.8	19.7	19.4	5.8	.....	1.0	610
As purchased.....	7	19.0	59.8	16.0	15.7	4.7	.....	.8	495
Flank, medium fat, as purchased:									
Minimum.....	5	.....	64.4	19.4	18.5	7.8	.....	.9	690
Maximum.....	5	.....	72.7	21.5	21.0	15.8	.....	1.1	1,035
Average.....	5	.....	68.9	20.5	19.7	10.4	.....	1.0	820
Flank, fat, as purchased.....	1	.....	57.0	18.1	18.0	24.1	.....	.9	1,355
Flank, all analyses, as purchased.....	6	.....	66.9	20.1	19.4	12.7	.....	1.0	910
Leg, lean:									
Edible portion—									
Minimum.....	9	.....	71.5	20.3	19.3	1.1	.....	1.1	465
Maximum.....	9	.....	75.6	22.6	22.5	6.4	.....	1.3	660
Average.....	9	.....	73.5	21.3	21.2	4.1	.....	1.2	570
As purchased—									
Minimum.....	9	4.5	53.3	16.5	16.5	3.5	.....	.9	445
Maximum.....	9	25.5	71.6	21.4	21.4	6.0	.....	1.2	620
Average.....	9	9.1	66.8	19.4	19.3	3.7	.....	1.1	520
Leg, medium fat:									
Edible portion—									
Minimum.....	10	.....	67.2	18.2	18.2	6.7	.....	1.0	670
Maximum.....	10	.....	72.1	21.4	20.7	11.7	.....	1.2	1,780
Average.....	10	.....	70.6	20.2	19.8	9.0	.....	1.2	755
As purchased—									
Minimum.....	9	6.9	55.7	14.6	14.9	5.5	.....	.9	545
Maximum.....	9	19.3	64.4	18.3	18.7	10.9	.....	1.0	1,655
Average.....	9	14.2	60.1	15.5	16.9	7.9	.....	.9	620

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
VEAL, FRESH—continued.									
Leg, all analyses:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion.....	18		71.7	20.7	20.5	6.7		1.1	670
As purchased.....	18	11.7	63.4	18.3	18.1	5.8		1.0	585
Leg, cutlets:									
Edible portion—									
Minimum.....	3		67.3	20.1	20.1	3.3		1.0	515
Maximum.....	3		75.4	20.5	21.1	10.6		1.2	830
Average.....	3		70.7	20.3	20.5	7.7		1.1	705
As purchased—									
Minimum.....	3	2.1	64.3	19.6	19.6	3.3		.9	505
Maximum.....	3	4.5	73.8	21.1	20.2	10.1		1.2	790
Average.....	3	3.4	68.3	20.1	19.8	7.5		1.0	690
Loin, lean:									
Edible portion—									
Minimum.....	5		71.3	18.8	18.6	4.8		1.0	565
Maximum.....	5		75.4	21.5	21.0	6.7		1.2	680
Average.....	5		73.3	20.4	19.9	5.6		1.2	615
As purchased—									
Minimum.....	5	17.4	53.2	13.4	13.5	3.5		.8	395
Maximum.....	5	29.0	59.7	17.7	16.8	5.4		1.0	555
Average.....	5	22.0	57.1	15.9	15.6	4.4		.9	480
Loin, medium fat:									
Edible portion—									
Minimum.....	6		67.9	18.3	18.1	10.1		1.0	805
Maximum.....	6		69.7	20.3	20.0	13.0		1.1	890
Average.....	6		69.0	19.9	19.2	10.8		1.0	825
As purchased—									
Minimum.....	6	12.2	55.3	16.0	15.4	8.2		.8	645
Maximum.....	6	20.3	60.1	17.5	16.6	11.4		.9	780
Average.....	6	16.5	57.6	16.6	16.0	9.0		.9	690
Loin, fat:									
Edible portion—									
Minimum.....	2		61.3	18.0	18.3	18.3		1.0	1,130
Maximum.....	2		61.9	19.3	18.7	19.4		1.1	1,155
Average.....	2		61.6	18.7	18.5	18.9		1.0	1,145
As purchased—									
Minimum.....	2	16.3	48.9	14.4	14.6	15.4		.8	920
Maximum.....	2	20.2	51.8	16.2	15.7	15.5		.8	950
Average.....	2	18.3	50.4	15.3	15.1	15.4		.8	935
Loin, all analyses:									
Edible portion.....	13		69.5	19.9	19.4	10.0		1.1	790
As purchased.....	13	18.9	56.3	16.1	15.7	8.2		.9	645
Loin, with kidney:									
Edible portion.....	1		73.3	14.7	14.1	11.8		.8	770
As purchased.....	1	9.1	66.7	13.4	12.8	10.7		.7	700
Neck:									
Edible portion—									
Minimum.....	6		69.8	19.9	18.7	4.3		.9	555
Maximum.....	6		75.8	20.8	20.0	9.2		1.1	775
Average.....	6		72.6	20.3	19.5	6.9		1.0	670
As purchased—									
Minimum.....	6	23.5	34.8	10.4	10.0	3.1		.6	385
Maximum.....	6	50.0	56.1	15.2	14.5	6.2		.8	540
Average.....	6	31.5	49.9	13.9	13.3	4.6		.7	455
Rib, medium fat:									
Edible portion—									
Minimum.....	9		70.4	20.0	19.2	3.4		1.0	530
Maximum.....	9		75.5	21.7	21.2	9.3		1.2	770
Average.....	9		72.7	20.7	20.1	6.1		1.1	646
As purchased—									
Minimum.....	9	12.7	42.2	12.7	12.4	2.5		.7	390
Maximum.....	9	41.3	64.5	17.3	16.8	6.8		1.1	565
Average.....	9	25.3	54.3	15.5	15.0	4.6		.8	480
Rib, fat:									
Edible portion—									
Minimum.....	3		50.1	16.2	17.5	11.1		.9	840
Maximum.....	3		67.8	20.0	20.0	31.5		1.1	1,630
Average.....	3		60.9	18.7	18.8	19.3		1.0	1,160
As purchased—									
Minimum.....	3	22.4	37.4	12.1	13.1	8.6		.6	650
Maximum.....	3	25.4	52.6	15.5	15.5	23.5		.9	1,215
Average.....	3	24.3	46.2	14.2	14.2	14.5		.8	875

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
VEAL, FRESH—continued.									
Rib, all analyses:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion	12	—	69.8	20.2	19.7	9.4	—	1.1	775
As purchased	12	25.0	52.3	15.2	14.8	7.1	—	.8	580
Rump:									
Edible portion	1	—	62.6	19.8	20.1	16.2	—	1.1	1,050
As purchased	1	30.2	43.7	13.8	14.0	11.3	—	.8	735
Shank, fore:									
Edible portion—									
Minimum	6	—	72.5	19.8	18.9	4.1	—	1.0	540
Maximum	6	—	75.8	21.4	20.6	6.4	—	1.0	655
Average	6	—	74.0	20.7	19.8	5.2	—	1.0	605
As purchased—									
Minimum	6	20.4	35.1	9.5	9.0	2.2	—	.5	295
Maximum	6	52.5	58.6	16.7	16.0	4.2	—	.8	490
Average	6	40.4	44.1	12.2	11.8	3.1	—	.6	360
Shank, hind, medium fat:									
Edible portion—									
Minimum	6	—	73.4	18.9	17.9	3.0	—	.9	520
Maximum	6	—	76.2	21.6	20.9	6.7	—	1.1	635
Average	6	—	74.5	20.7	19.9	4.6	—	1.0	580
As purchased—									
Minimum	6	61.1	25.9	7.1	6.7	1.2	—	.4	195
Maximum	6	64.7	29.3	8.2	8.0	2.5	—	.4	235
Average	6	62.7	27.8	7.7	7.4	1.7	—	.4	215
Shank, hind, fat:									
Edible portion	1	—	68.1	20.5	20.0	10.7	—	1.2	835
As purchased	1	51.4	33.1	10.0	9.7	5.2	—	.6	405
Shank, hind, all analyses:									
Edible portion	7	—	73.6	20.7	19.9	5.5	—	1.0	615
As purchased	7	61.1	28.6	8.0	7.7	2.2	—	.4	240
Shoulder, lean:									
Edible portion—									
Minimum	2	—	71.9	20.7	20.7	3.1	—	1.2	515
Maximum	2	—	74.9	20.7	20.7	6.2	—	1.3	635
Average	2	—	73.4	20.7	20.7	4.6	—	1.3	580
As purchased—									
Minimum	2	11.5	56.1	15.5	15.5	2.3	—	1.0	385
Maximum	2	25.1	63.7	18.3	18.3	5.5	—	1.0	570
Average	2	18.3	59.9	16.9	16.9	3.9	—	1.0	480
Shoulder and flank, medium fat:									
Edible portion—									
Minimum	2	—	64.7	19.3	19.0	13.5	—	1.1	945
Maximum	2	—	65.6	20.1	19.7	15.2	—	1.2	1,000
Average	2	—	65.2	19.7	19.3	14.4	—	1.1	975
As purchased—									
Minimum	2	21.8	49.7	15.0	14.8	10.2	—	.9	715
Maximum	2	24.3	50.6	15.2	14.9	11.9	—	.9	780
Average	2	23.0	50.2	15.1	14.9	11.0	—	.9	745
Forequarter:									
Edible portion—									
Minimum	6	—	60.9	19.5	18.6	5.5	—	.8	595
Maximum	6	—	74.8	20.9	20.5	10.6	—	1.1	810
Average	6	—	71.7	20.0	19.4	8.0	—	.9	710
As purchased—									
Minimum	6	19.3	51.8	14.5	13.7	4.1	—	.6	445
Maximum	6	26.0	56.6	16.1	15.9	7.8	—	.8	600
Average	6	24.5	54.2	15.1	14.6	6.0	—	.7	535
Hind quarter:									
Edible portion—									
Minimum	6	—	68.4	19.6	19.4	5.6	—	.8	620
Maximum	6	—	73.8	20.8	20.4	11.2	—	1.2	835
Average	6	—	70.9	20.7	19.8	8.3	—	1.0	735
As purchased—									
Minimum	6	18.0	53.7	15.7	15.3	4.4	—	.6	496
Maximum	6	24.0	58.4	15.8	16.2	9.2	—	.9	690
Average	6	20.7	56.2	16.2	15.7	6.6	—	.8	580
Side, with kidney, fat, and tallow:									
Edible portion—									
Minimum	6	—	69.2	19.8	19.2	5.5	—	.9	605
Maximum	6	—	74.3	20.7	20.4	10.3	—	1.1	805
Average	6	—	71.3	20.2	19.6	8.1	—	1.0	715
As purchased—									
Minimum	6	18.6	53.3	15.4	14.7	4.3	—	.7	470
Maximum	6	24.9	57.3	16.1	15.9	8.4	—	.9	655
Average	6	22.6	55.2	15.6	15.1	6.3	—	.8	555



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N $\times$ 6.25.	By difference.				
ANIMAL FOOD—Continued.									
VEAL ORGANS.									
Heart, as purchased	1	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cals.
Kidneys, as purchased:			73.2	16.8	16.2	9.6		1.0	720
Minimum	2		74.7	16.6	16.4	5.4		1.3	545
Maximum	2		76.8	17.1	16.6	7.4		1.4	620
Average	2		75.8	16.9	16.5	6.4		1.3	555
Liver, as purchased:									
Minimum	2		72.4	18.4	19.8	4.0		1.2	535
Maximum	2		73.7	19.6	21.0	6.6		1.3	626
Average	2		73.0	19.0	20.4	5.3		1.3	575
Lungs, as purchased	1		76.8	17.1	17.1	5.0		1.1	530
LAMB, FRESH.									
Breast or chuck:									
Edible portion	1		56.2	19.1	19.2	23.6		1.0	1,350
As purchased	1	19.1	45.5	15.4	15.5	19.1		.8	1,090
Leg, hind, medium fat:									
Edible portion—									
Minimum	2		63.1	18.7	18.1	15.3		1.1	1,010
Maximum	2		64.7	19.7	18.9	17.6		1.2	1,090
Average	2		63.9	19.2	18.5	16.5		1.1	1,055
As purchased—									
Minimum	2	17.0	52.4	15.5	15.0	12.6		.9	830
Maximum	2	17.7	53.3	16.2	15.5	14.6		1.0	905
Average	2	17.4	52.9	15.9	15.2	13.6		.9	870
Leg, hind, fat									
Edible portion	1		54.6	18.3	17.1	27.4		.9	1,495
As purchased	1	13.4	47.3	15.8	14.8	23.7		.8	1,295
Leg, hind, very fat:									
Edible portion	1		51.8	17.6	17.2	30.1		.9	1,595
As purchased	1	7.0	48.2	16.4	16.0	28.0		.8	1,485
Leg, hind, all analyses:									
Edible portion	4		58.6	18.6	17.8	22.6		1.0	1,300
As purchased	4	13.8	50.3	16.0	15.3	19.7		.9	1,130
Leg, free from all visible fat, as purchased	1		72.3	25.3	23.6	2.7		1.4	585
Loin, without kidney and tallow:									
Edible portion—									
Minimum	4		48.6	16.9	15.5	25.1		.8	1,420
Maximum	4		54.8	20.2	19.0	35.1		1.1	1,795
Average	4		53.1	18.7	17.6	28.3		1.0	1,540
As purchased—									
Minimum	4	12.2	40.8	14.2	13.0	21.1		.7	1,200
Maximum	4	17.4	48.1	17.1	16.7	29.5		.9	1,510
Average	4	14.8	45.3	16.0	15.0	24.1		.8	1,315
Neck:									
Edible portion	1		56.7	17.7	17.5	24.8		1.0	1,375
As purchased	1	17.7	46.7	14.6	14.4	20.4		.8	1,135
Shoulder:									
Edible portion	1		51.8	18.1	17.5	29.7		1.0	1,590
As purchased	1	20.3	41.3	14.4	14.0	23.6		.8	1,265
Forequarter:									
Edible portion	1		55.1	18.3	18.1	25.8		1.0	1,430
As purchased	1	18.8	44.7	14.9	14.7	21.0		.8	1,165
Hind quarter:									
Edible portion	1		60.9	19.6	19.0	19.1		1.0	1,170
As purchased	1	15.7	51.3	16.5	16.0	16.1		.9	985
Side, without tallow:									
Edible portion—									
Minimum	3		56.8	17.0	16.5	21.2		1.0	1,235
Maximum	3		60.0	18.9	18.5	25.7		1.1	1,400
Average	3		58.2	17.6	17.6	23.1		1.1	1,300
As purchased—									
Minimum	3	17.3	46.1	13.8	13.4	16.6		.8	965
Maximum	3	21.6	47.9	15.6	15.3	20.9		.9	1,140
Average	3	19.3	47.0	14.1	14.2	18.7		.8	1,055
LAMB, COOKED.									
Chops, broiled:									
Edible portion—									
Minimum	4		43.4	19.2	19.2	24.3		1.1	1,495
Maximum	4		50.4	25.2	23.6	34.7		1.7	1,860
Average	4		47.6	21.7	21.2	29.9		1.3	1,665
As purchased	1	13.5	40.1	18.4	18.5	26.7		1.2	1,470
Cut not given, as purchased	1		47.1	23.7	22.1	29.4		1.4	1,680
Leg, roast	1		67.1	19.7	19.4	12.7		.8	900



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
LAMB, CANNED.									
Tongue, spiced and cooked:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion.....	1	.....	67.4	13.9	14.3	17.8	.....	0.5	1,010
As purchased.....	1	2.6	65.7	13.5	13.9	17.3	.....	.5	980
MUTTON, FRESH.									
Chuck, lean:									
Edible portion.....	1	.....	64.7	17.8	18.1	16.3	.....	.9	1,020
As purchased.....	1	19.5	52.1	14.3	14.5	13.1	.....	.8	820
Chuck, medium fat:									
Edible portion—									
Minimum.....	6	.....	47.9	14.4	13.6	26.0	.....	.7	1,400
Maximum.....	6	.....	56.7	16.3	16.4	37.4	.....	1.2	1,845
Average.....	6	.....	50.9	15.1	14.6	33.6	.....	.9	1,700
As purchased—									
Minimum.....	6	14.4	36.6	11.2	10.5	20.6	.....	.6	1,110
Maximum.....	6	25.2	45.1	13.0	13.1	30.6	.....	.9	1,500
Average.....	6	21.3	39.9	11.9	11.5	26.7	.....	.6	1,350
Chuck, fat:									
Edible portion—									
Minimum.....	2	.....	37.6	13.7	13.3	42.5	.....	.7	2,055
Maximum.....	2	.....	43.5	14.0	14.2	47.2	.....	1.0	2,245
Average.....	2	.....	40.6	13.9	13.7	44.9	.....	.8	2,155
As purchased—									
Minimum.....	2	14.9	32.0	11.5	10.9	34.8	.....	.6	1,685
Maximum.....	2	18.1	35.6	11.7	12.1	40.1	.....	.9	1,910
Average.....	2	16.5	33.8	11.6	11.5	37.5	.....	.7	1,800
Chuck, very fat:									
Edible portion.....	1	.....	29.9	9.6	9.4	60.1	.....	.6	2,715
As purchased.....	1	13.8	25.8	8.3	8.1	51.8	.....	.5	2,340
Chuck, all analyses:									
Edible portion.....	10	.....	48.2	14.6	14.2	36.8	.....	.8	1,825
As purchased.....	10	19.4	38.5	11.7	11.4	30.0	.....	.7	1,485
Flank, medium fat:									
Edible portion—									
Minimum.....	8	.....	38.7	12.4	11.9	32.1	.....	.5	1,670
Maximum.....	8	.....	51.2	17.1	16.0	45.0	.....	.8	2,190
Average.....	8	.....	46.2	15.2	14.8	38.3	.....	.7	1,900
As purchased—									
Minimum.....	2	2.2	37.8	12.2	11.8	29.6	.....	.5	1,475
Maximum.....	2	17.7	40.2	15.3	15.4	44.1	.....	.7	2,145
Average.....	2	9.9	39.0	13.8	13.6	36.9	.....	.6	1,815
Flank, very fat, as purchased:									
Minimum.....	2	.....	25.0	8.6	9.5	54.7	.....	.6	2,545
Maximum.....	2	.....	32.7	12.8	12.0	64.9	.....	.6	2,900
Average.....	2	.....	28.9	10.7	10.7	59.8	.....	.6	2,725
Flank, all analyses:									
Edible portion.....	10	.....	42.7	14.3	14.0	42.6	.....	.7	2,065
As purchased.....	2	9.9	39.0	13.8	13.6	36.9	.....	.6	1,815
Leg, hind, lean:									
Edible portion—									
Minimum.....	3	.....	66.6	19.3	18.5	11.9	.....	1.1	875
Maximum.....	3	.....	68.3	20.2	19.6	13.0	.....	1.2	920
Average.....	3	.....	67.4	19.8	19.1	12.4	.....	1.1	890
As purchased—									
Minimum.....	3	3.4	51.0	14.7	14.1	9.3	.....	.8	665
Maximum.....	3	23.7	65.0	19.5	19.0	11.5	.....	1.1	850
Average.....	3	16.8	56.1	16.5	15.9	10.3	.....	.9	740
Leg, hind, medium fat:									
Edible portion—									
Minimum.....	11	.....	58.4	17.4	17.3	14.6	.....	.9	955
Maximum.....	11	.....	65.3	19.4	19.0	22.5	.....	1.0	1,295
Average.....	11	.....	62.8	18.5	18.2	18.0	.....	1.0	1,105
As purchased—									
Minimum.....	11	9.8	48.0	13.8	13.4	11.0	.....	.7	730
Maximum.....	11	26.0	55.7	17.5	17.1	19.3	.....	.9	1,105
Average.....	11	18.4	51.2	15.1	14.9	14.7	.....	.8	900
Leg, hind, fat:									
Edible portion.....	1	.....	55.0	17.3	17.0	27.1	.....	.9	1,465
As purchased.....	1	12.4	48.2	15.2	14.8	23.8	.....	.8	1,290
Leg, hind, all analyses:									
Edible portion.....	15	.....	63.2	18.7	18.3	17.5	.....	1.0	1,085
As purchased.....	15	17.7	51.9	15.4	15.1	14.5	.....	.8	900

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N $\times$ 6.25.	By difference.				
ANIMAL FOOD—Continued.									
MUTTON, FRESH—continued.									
Loin, without kidney or tallow, medium fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	13	.....	44.9	13.7	13.8	25.9	.....	0.7	1,430
Maximum .....	13	.....	55.9	19.6	19.5	37.6	.....	1.0	1,860
Average .....	13	.....	50.2	16.0	15.9	33.1	.....	.8	1,695
As purchased—									
Minimum .....	12	11.7	38.1	11.3	11.5	20.9	.....	.5	1,155
Maximum .....	12	23.8	46.8	14.7	14.9	32.9	.....	.9	1,640
Average .....	12	16.0	42.0	13.5	13.0	28.3	.....	.7	1,445
Loin, without kidney or tallow, fat:									
Edible portion—									
Minimum .....	3	.....	42.0	14.5	13.9	40.9	.....	.7	1,995
Maximum .....	3	.....	44.3	15.1	14.6	43.3	.....	.8	2,100
Average .....	3	.....	43.3	14.7	14.2	41.7	.....	.8	2,035
As purchased—									
Minimum .....	3	11.3	37.1	12.8	12.3	36.0	.....	.6	1,770
Maximum .....	3	12.0	39.3	13.3	12.9	38.2	.....	.7	1,850
Average .....	3	11.7	38.3	13.0	12.5	36.8	.....	.7	1,795
Loin, without kidney or tallow, very fat:									
Edible portion .....	1	.....	30.8	10.6	10.0	58.7	.....	.5	2,675
As purchased .....	1	9.0	28.1	9.6	9.1	53.4	.....	.4	2,435
Loin, without kidney or tallow, all analyses:									
Edible portion .....	17	.....	47.8	15.5	15.2	36.2	.....	.8	1,815
As purchased .....	16	14.8	40.4	13.1	12.7	31.5	.....	.6	1,575
Loin, free fat removed .....	1	.....	56.5	23.7	23.9	18.5	.....	1.1	1,225
Neck, medium fat:									
Edible portion—									
Minimum .....	10	.....	54.7	12.8	12.4	17.8	.....	.8	1,125
Maximum .....	10	.....	61.9	20.0	19.2	29.5	.....	1.1	1,540
Average .....	10	.....	58.1	16.9	16.3	24.6	.....	1.0	1,355
As purchased—									
Minimum .....	10	17.2	38.4	8.4	8.1	14.0	.....	.6	840
Maximum .....	10	34.9	48.6	15.7	15.1	24.5	.....	.8	1,280
Average .....	10	27.4	42.1	12.3	11.9	17.9	.....	.7	985
Neck, very fat:									
Edible portion .....	1	.....	42.1	13.9	13.6	43.5	.....	.8	2,095
As purchased .....	1	16.1	35.3	11.7	11.4	36.5	.....	.7	1,760
Neck, all analyses:									
Edible portion .....	11	.....	56.6	16.7	16.1	26.3	.....	1.0	1,420
As purchased .....	11	26.4	41.5	12.2	11.8	19.6	.....	.7	1,055
Shoulder, lean:									
Edible portion .....	1	.....	67.2	19.5	18.9	12.9	.....	1.0	905
As purchased .....	1	25.3	50.2	14.6	14.2	9.6	.....	.7	675
Shoulder, medium fat:									
Edible portion—									
Minimum .....	7	.....	58.6	16.6	15.8	15.6	.....	.9	1,115
Maximum .....	7	.....	65.2	18.3	18.2	24.3	.....	.9	1,335
Average .....	7	.....	61.9	17.7	17.3	19.9	.....	.9	1,170
As purchased—									
Minimum .....	7	14.6	45.0	12.6	12.1	13.4	.....	.6	835
Maximum .....	7	27.2	55.7	15.5	15.5	18.8	.....	.8	1,075
Average .....	7	22.5	47.9	13.7	13.4	15.5	.....	.7	910
Shoulder, fat:									
Edible portion .....	1	.....	53.0	16.2	15.9	30.3	.....	.8	1,580
As purchased .....	1	19.5	42.7	13.0	12.8	24.4	.....	.6	1,270
Shoulder, very fat:									
Edible portion .....	1	.....	48.4	15.6	15.2	35.6	.....	.8	1,790
As purchased .....	1	18.7	39.3	12.7	12.4	28.9	.....	.7	1,455
Shoulder, all analyses:									
Edible portion .....	10	.....	60.2	17.5	17.1	21.8	.....	.9	1,245
As purchased .....	10	22.1	46.8	13.7	13.3	17.1	.....	.7	975
Forequarter:									
Edible portion—									
Minimum .....	10	.....	37.2	12.1	11.7	17.1	.....	.7	1,040
Maximum .....	10	.....	64.3	17.2	17.6	50.4	.....	1.1	2,350
Average .....	10	.....	52.9	15.6	15.3	30.9	.....	.9	1,595
As purchased—									
Minimum .....	10	15.7	31.4	10.2	9.9	13.3	.....	.5	810
Maximum .....	10	24.9	50.0	13.8	13.7	42.4	.....	.8	1,980
Average .....	10	21.2	41.6	12.3	12.0	24.5	.....	.7	1,265
Hind quarter:									
Edible portion—									
Minimum .....	10	.....	40.4	13.2	12.9	21.4	.....	.6	1,235
Maximum .....	10	.....	60.4	18.2	17.4	46.1	.....	1.0	2,190
Average .....	10	.....	54.8	16.7	16.3	28.1	.....	.8	1,495

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
MUTTON, FRESH—continued.									
Hind quarter—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	10	9.8	36.5	11.9	11.6	17.7	.....	0.6	1,020
Maximum .....	10	22.4	50.0	15.7	14.7	41.5	.....	.8	1,975
Average .....	10	17.2	45.4	13.8	13.5	23.2	.....	.7	1,235
Side, including tallow:									
Edible portion—									
Minimum .....	25	.....	47.2	14.5	14.0	14.7	.....	.7	965
Maximum .....	25	.....	55.9	18.9	18.4	38.0	.....	1.0	1,860
Average .....	25	.....	54.2	16.3	16.0	23.9	.....	.9	1,520
As purchased—									
Minimum .....	25	13.0	40.7	12.2	11.7	11.2	.....	.6	730
Maximum .....	25	22.8	55.2	14.9	14.4	33.1	.....	.8	1,625
Average .....	25	18.1	45.4	13.0	12.7	23.1	.....	.7	1,215
Side, not including tallow:									
Edible portion—									
Minimum .....	10	.....	38.8	12.6	12.3	23.3	.....	.7	1,295
Maximum .....	10	.....	58.8	17.4	17.4	48.2	.....	.9	2,205
Average .....	10	.....	58.6	16.2	15.8	29.8	.....	.8	1,560
As purchased—									
Minimum .....	10	12.9	33.2	11.0	10.7	18.1	.....	.6	1,005
Maximum .....	10	22.7	47.3	14.7	13.8	42.0	.....	.8	1,975
Average .....	10	19.3	43.3	13.0	12.7	24.0	.....	.7	1,255
MUTTON, COOKED.									
Mutton, leg roast, edible portion:									
Minimum .....	2	.....	50.8	23.3	23.2	20.5	.....	1.2	1,380
Maximum .....	2	.....	51.0	27.8	27.4	24.6	.....	1.3	1,470
Average .....	2	.....	50.9	25.0	25.3	22.6	.....	1.2	1,420
MUTTON, ORGANS.									
Heart, as purchased:									
Minimum .....	2	.....	67.4	15.8	15.6	11.9	.....	.9	795
Maximum .....	2	.....	71.6	18.0	18.3	13.4	.....	.9	890
Average .....	2	.....	69.5	16.9	17.0	12.6	.....	.9	845
Kidneys, as purchased .....	1	.....	78.7	16.5	16.8	3.2	.....	1.3	440
Kidney and kidney fat, as purchased .....	1	.....	18.8	6.2	4.3	76.5	.....	.4	3,345
Kidney fat, as purchased:									
Minimum .....	2	.....	2.9	1.7	1.1	94.9	.....	.1	4,035
Maximum .....	2	.....	3.9	1.8	1.2	95.8	.....	.1	4,075
Average .....	2	.....	3.4	1.8	1.1	95.4	.....	.1	4,060
Liver, as purchased:									
Minimum .....	2	.....	52.7	23.1	.....	4.7	2.1	1.4	645
Maximum .....	2	.....	69.8	24.2	.....	13.2	7.9	2.0	1,155
Average .....	2	.....	61.2	23.1	.....	9.0	5.0	1.7	905
Lungs, as purchased:									
Minimum .....	2	.....	74.6	19.0	18.8	2.6	.....	1.2	475
Maximum .....	2	.....	77.1	21.4	21.5	2.9	.....	1.3	505
Average .....	2	.....	75.9	20.2	20.1	2.8	.....	1.2	495
MUTTON, CANNED.									
Corned, as purchased .....	1	.....	45.8	28.8	27.2	22.8	.....	4.2	1,500
Tongue, as purchased .....	1	.....	47.6	24.4	23.6	24.0	.....	4.8	1,465
PORK, FRESH.									
Chuck ribs and shoulder:									
Edible portion—									
Minimum .....	2	.....	50.3	17.2	16.8	30.4	.....	.9	1,605
Maximum .....	2	.....	51.9	17.3	16.9	31.9	.....	.9	1,665
Average .....	2	.....	51.1	17.3	16.9	31.1	.....	.9	1,635
As purchased—									
Minimum .....	2	15.9	40.1	13.7	13.5	25.4	.....	.7	1,325
Maximum .....	2	20.3	43.6	14.5	14.1	25.6	.....	.8	1,350
Average .....	2	18.1	41.8	14.1	13.8	25.5	.....	.8	1,340
Flank:									
Edible portion—									
Minimum .....	3	.....	56.0	17.2	16.2	19.4	.....	.9	1,180
Maximum .....	3	.....	60.7	19.5	18.9	26.9	.....	1.0	1,455
Average .....	3	.....	59.0	18.5	17.8	22.2	.....	1.0	1,280
As purchased—									
Minimum .....	3	11.3	45.4	13.9	12.9	15.0	.....	.0	900
Maximum .....	3	23.0	54.0	16.5	15.3	22.0	.....	.8	1,160
Average .....	3	18.0	48.5	15.1	14.2	18.6	.....	.7	1,065



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, FRESH—continued.									
Ham, fresh, lean:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2		55.6	19.8	18.8	13.0		1.0	1,035
Maximum	2		64.4	30.2	30.2	15.8		1.6	1,110
Average	2		60.0	25.0	24.3	14.4		1.3	1,075
As purchased—									
Minimum	2		55.6	19.4	18.5	13.0		.9	1,015
Maximum	2	1.8	63.3	30.2	29.8	15.5		1.6	1,110
Average	2	.9	59.4	24.8	24.2	14.2		1.3	1,060
Ham, fresh, medium fat: <i>a</i>									
Edible portion—									
Minimum	10		37.3	9.9	12.8	21.2		.6	1,225
Maximum	10		60.3	20.3	22.0	39.4		1.3	2,070
Average	10		53.9	15.3	16.4	28.9		.8	1,505
As purchased—									
Minimum	10	4.6	34.1	8.7	11.3	19.4		.6	1,120
Maximum	10	14.2	54.7	18.5	20.0	36.0		1.2	1,890
Average	10	10.7	48.0	13.5	14.6	25.9		.8	1,345
Ham, fresh, fat: <i>b</i>									
Edible portion—									
Minimum	5		30.4	10.7	8.0	43.8		.5	2,030
Maximum	5		44.3	14.2	12.1	61.1		.8	2,825
Average	5		38.7	12.4	10.6	50.0		.7	2,345
As purchased—									
Minimum	5	9.7	25.9	9.5	6.8	37.8		.4	1,790
Maximum	5	16.3	40.0	12.2	10.4	52.2		.7	2,410
Average	5	13.2	33.6	10.7	9.2	43.5		.5	2,035
Ham, fresh, average all analyses:									
Edible portion	17		50.1	15.7	15.6	33.4		.9	1,700
As purchased	17	10.3	45.1	14.3	14.1	29.7		.8	1,520
Ham, fresh, visible fat largely removed	3		64.5	19.2	18.4	16.2		.9	1,040
Head:									
Edible portion—									
Minimum	3		38.4	11.6	10.5	34.5		.6	1,725
Maximum	3		50.5	14.5	14.2	50.5		.8	2,350
Average	3		45.3	13.4	12.7	41.3		.7	1,990
As purchased—									
Minimum	3	51.7	10.7	3.2	3.0	8.2		.2	410
Maximum	3	77.2	18.5	5.6	5.1	24.4		.3	1,135
Average	3	68.4	13.8	4.1	3.8	18.8		.2	660
Head cheese:									
Edible portion—									
Minimum	3		38.1	17.4	18.4	27.4		3.0	1,555
Maximum	3		48.1	21.5	21.1	40.5		3.4	2,035
Average	3		43.3	19.5	16.9	33.8		3.3	1,790
As purchased	1	12.1	42.3	18.9	18.6	24.0		3.0	1,365
Loin (chops), lean:									
Edible portion	1		60.3	20.3	19.7	19.0		1.0	1,180
As purchased	1	23.5	46.1	15.5	15.1	14.5		.8	900
Loin (chops), medium fat:									
Edible portion— <i>c</i>									
Minimum	19		49.1	13.8	14.9	25.0		.8	1,415
Maximum	19		55.2	19.4	18.9	35.2		1.1	1,785
Average	19		52.0	16.6	16.9	30.1		1.0	1,580
As purchased—									
Minimum	19	11.5	36.3	10.6	11.7	20.0		.6	1,090
Maximum	19	28.2	46.9	16.1	16.3	31.1		.8	1,575
Average	19	19.7	41.8	13.4	13.5	24.2		.8	1,270
Loin (chops), fat:									
Edible portion—									
Minimum	4		39.7	11.3	11.0	38.8		.6	1,995
Maximum	4		46.7	19.3	15.8	48.6		.7	2,260
Average	4		41.8	14.5	13.1	44.4		.7	2,145
As purchased—									
Minimum	4	10.1	32.0	10.2	9.9	30.4		.6	1,560
Maximum	4	22.2	36.5	15.1	12.3	43.7		.6	2,035
Average	4	16.5	34.8	11.9	10.9	37.2		.6	1,790
Loin (chops), average all analyses:									
Edible portion	24		50.7	16.4	16.4	32.0		.9	1,655
As purchased	24	19.3	40.8	13.2	13.1	26.0		.8	1,340

*a* Seven samples contained an average of lecithin 0.32, gelatinoids 0.8, and "flesh bases 1.28 per cent."*b* One sample contained lecithin 0.45, gelatinoids 0.9, and "flesh bases 0.8 per cent."*c* Eight samples contained an average of lecithin 0.35, gelatinoids 1.0, and "flesh bases 1.5 per cent."



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, FRESH—continued.									
Loin, tenderloin, as purchased : <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	11	.....	62.4	15.8	16.6	9.3	.....	0.9	770
Maximum .....	11	.....	72.8	20.5	21.4	17.1	.....	1.2	1,100
Average .....	11	.....	66.5	18.9	19.5	18.0	.....	1.0	900
Middle cuts:									
Edible portion—									
Minimum .....	3	.....	46.0	15.7	14.5	34.9	.....	.7	1,760
Maximum .....	3	.....	49.4	15.7	15.2	38.8	.....	.8	1,925
Average .....	3	.....	48.2	15.7	14.8	36.3	.....	.7	1,825
As purchased—									
Minimum .....	3	12.7	35.5	12.1	11.3	26.5	.....	.6	1,345
Maximum .....	3	23.5	42.8	13.7	13.2	30.5	.....	.8	1,510
Average .....	3	19.7	38.6	12.7	12.1	28.9	.....	.7	1,455
Shoulder:									
Edible portion— <i>b</i>									
Minimum .....	19	.....	44.0	9.4	10.4	18.5	.....	.6	1,105
Maximum .....	19	.....	63.6	17.4	17.0	49.3	.....	.9	2,260
Average .....	19	.....	51.2	13.8	13.8	34.2	.....	.8	1,690
As purchased—									
Minimum .....	19	3.9	36.1	8.3	9.5	14.6	.....	.5	870
Maximum .....	19	21.1	56.0	16.3	16.1	45.1	.....	.9	2,065
Average .....	19	12.4	44.9	12.0	12.2	29.8	.....	.7	1,480
Side, lard and other fat included:									
Edible portion—									
Minimum .....	3	.....	26.2	8.4	7.8	59.1	.....	.4	2,675
Maximum .....	3	.....	31.8	9.9	8.9	65.6	.....	.5	2,925
Average .....	3	.....	29.4	9.4	8.5	61.7	.....	.4	2,780
As purchased—									
Minimum .....	3	7.9	24.1	7.8	7.2	51.1	.....	.4	2,315
Maximum .....	3	13.5	27.5	8.5	7.8	60.4	.....	.4	2,695
Average .....	3	11.2	26.1	8.3	7.5	54.8	.....	.4	2,465
Side, not including lard and kidney:									
Edible portion— <i>c</i>									
Minimum .....	11	.....	29.4	7.1	8.1	44.0	.....	.4	2,060
Maximum .....	11	.....	43.1	11.0	12.2	64.4	.....	.7	2,880
Average .....	11	.....	34.4	9.1	9.8	55.3	.....	.5	2,505
As purchased—									
Minimum .....	11	8.2	26.6	6.4	7.3	38.8	.....	.4	1,815
Maximum .....	11	14.2	38.0	9.0	10.8	59.1	.....	.6	2,645
Average .....	11	11.5	30.4	8.0	8.6	49.0	.....	.5	2,215
Clear backs:									
Edible portion— <i>d</i>									
Minimum .....	8	.....	20.2	4.9	5.6	57.8	.....	.3	2,595
Maximum .....	8	.....	32.3	8.4	9.4	74.4	.....	.5	3,235
Average .....	8	.....	25.1	6.4	6.9	67.6	.....	.4	2,970
As purchased—									
Minimum .....	8	4.2	19.3	4.7	4.8	54.8	.....	.3	2,460
Maximum .....	8	7.1	30.6	8.0	8.9	70.9	.....	.5	3,080
Average .....	8	5.7	23.7	6.0	6.4	63.8	.....	.4	2,805
Clear bellies:									
Edible portion— <i>e</i>									
Minimum .....	8	.....	21.5	3.5	4.3	52.1	.....	.2	2,360
Maximum .....	8	.....	37.3	8.8	10.0	74.0	.....	.6	3,590
Average .....	8	.....	31.4	6.0	7.8	60.4	.....	.4	2,675
As purchased—									
Minimum .....	8	4.9	20.3	3.3	4.0	49.1	.....	.2	2,225
Maximum .....	8	8.6	35.2	8.3	9.4	69.8	.....	.6	3,005
Average .....	8	6.2	29.5	6.5	7.3	56.6	.....	.4	2,510
Back fat, as purchased:									
Minimum .....	3	.....	5.5	3.2	2.0	86.7	.....	.1	3,730
Maximum .....	3	.....	10.5	4.1	2.7	92.4	.....	.2	3,955
Average .....	3	.....	7.7	3.6	2.3	89.9	.....	.1	3,860
Belly fat, as purchased:									
Minimum .....	3	.....	11.0	3.9	3.2	78.6	.....	.2	3,430
Maximum .....	3	.....	10.7	6.1	4.6	85.0	.....	.2	3,085
Average .....	3	.....	13.8	5.2	4.1	81.9	.....	.2	3,555

*a* Eight samples contained an average of lecithin 0.51, gelatinoids 0.6, and "flesh bases" 0.9 per cent.*b* Eight samples contained an average of lecithin 0.25, gelatinoids 0.8, and "flesh bases" 1.1 per cent.*c* Eight samples contained an average of lecithin 0.35, gelatinoids 1, and "flesh bases" 1.5 per cent.*d* Eight samples contained an average of lecithin 0.21, gelatinoids 0.6, and "flesh bases" 0.8 per cent.*e* Eight samples contained an average of lecithin 0.18, gelatinoids 0.6, and "flesh bases" 0.9 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, FRESH—continued.									
Ham fat, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	3	-----	8.3	3.1	2.5	87.2	-----	0.1	3,740
Maximum .....	3	-----	10.2	3.7	3.3	89.2	-----	.2	3,825
Average .....	3	-----	9.1	3.5	2.7	88.0	-----	.2	3,750
Jowl fat, as purchased:									
Minimum .....	3	-----	13.3	5.1	4.3	72.8	-----	.2	3,200
Maximum .....	3	-----	21.2	6.9	5.7	82.2	-----	.3	3,575
Average .....	3	-----	16.0	5.9	5.0	78.8	-----	.2	3,435
Feet:									
Edible portion— <i>a</i>									
Minimum .....	8	-----	50.7	8.3	11.2	17.4	-----	.4	1,090
Maximum .....	8	-----	61.3	19.2	20.5	31.5	-----	.9	1,630
Average .....	8	-----	55.4	15.8	17.5	26.3	-----	.8	1,405
As purchased—									
Minimum .....	8	65.6	8.7	2.4	3.0	3.7	-----	.1	235
Maximum .....	8	84.0	17.3	5.6	5.8	10.8	-----	.3	560
Average .....	8	74.1	14.3	4.1	4.5	6.9	-----	.2	365
Tails:									
Edible portion— <i>b</i>									
Minimum .....	8	-----	11.5	2.9	3.6	67.2	-----	.2	2,940
Maximum .....	8	-----	25.8	6.8	7.2	84.7	-----	.4	3,630
Average .....	8	-----	17.4	4.8	5.2	77.1	-----	.3	3,340
As purchased—									
Minimum .....	8	8.7	10.0	2.5	3.2	54.9	-----	.2	2,120
Maximum .....	8	19.8	21.8	5.5	5.8	74.2	-----	.3	3,200
Average .....	8	13.3	15.0	4.1	4.5	66.9	-----	.3	2,900
Trimmings:									
Edible portion—									
Minimum .....	8	-----	16.5	3.9	4.3	62.1	-----	.3	2,750
Maximum .....	8	-----	29.7	7.2	7.9	78.9	-----	.4	3,465
Average .....	8	-----	23.3	5.4	6.2	70.2	-----	.3	3,060
As purchased—									
Minimum .....	8	5.3	15.5	3.7	4.0	58.0	-----	.3	2,570
Maximum .....	8	10.4	27.8	6.7	7.3	74.2	-----	.4	3,200
Average .....	8	7.4	21.6	5.0	5.7	65.0	-----	.3	2,835
PORK ORGANS, ETC.									
Brains, as purchased .....	1	-----	75.8	11.7	12.3	10.3	-----	1.6	655
Heart, as purchased .....	1	-----	75.6	17.1	17.1	6.3	-----	1.0	585
Kidneys, as purchased:									
Minimum .....	2	-----	76.1	15.2	15.2	4.1	-----	1.2	455
Maximum .....	2	-----	79.5	15.9	17.2	5.5	-----	1.2	530
Average .....	2	-----	77.8	15.5	16.2	4.8	-----	1.2	490
Liver, as purchased .....	1	-----	71.4	21.3	21.3	4.5	1.4	1.4	615
Lungs, as purchased .....	1	-----	83.3	11.9	11.8	4.0	-----	.9	390
Marrow, as purchased:									
Minimum .....	6	-----	13.2	1.5	2.2	78.4	-----	-----	3,360
Maximum .....	6	-----	16.7	3.2	5.8	84.5	-----	(c)	4,095
Average .....	6	-----	14.6	2.3	4.2	81.2	-----	-----	3,470
Skin, as purchased:									
Minimum .....	7	-----	35.5	18.5	27.4	14.4	-----	.5	1,140
Maximum .....	7	-----	55.4	33.3	37.5	35.3	-----	.8	1,860
Average .....	7	-----	46.8	26.4	30.4	22.7	-----	.6	1,450
PORK, PICKLED, SALTED, AND SMOKED.									
Ham, smoked, lean:									
Edible portion—									
Minimum .....	3	-----	49.5	10.5	19.3	17.0	-----	5.4	1,080
Maximum .....	3	-----	57.4	20.2	20.7	24.4	-----	5.8	1,405
Average .....	8	-----	53.5	19.8	20.2	20.8	-----	5.5	1,245
As purchased—									
Minimum .....	3	8.4	45.3	16.7	17.0	14.5	-----	4.8	925
Maximum .....	3	14.3	49.2	18.5	19.0	22.8	-----	5.0	1,285
Average .....	3	11.5	47.2	17.5	17.9	18.5	-----	4.9	1,105

*a* Eight samples contained an average of lecithin 0.32, gelatinoids 3.5, and "flesh bases" 2 per cent.

*b* Eight samples contained an average of lecithin 0.20, gelatinoids 0.6, and "flesh bases" 0.6 per cent.

*c* Ash not determined.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates,	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, PICKLED, SALTED AND SMOKED—cont'd.									
Ham, smoked, medium fat:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	14	.....	34.7	12.5	11.8	30.3	.....	2.7	1,690
Maximum .....	14	.....	45.6	22.9	24.5	44.7	.....	7.4	2,145
Average .....	14	.....	40.3	16.3	16.1	33.8	.....	4.8	1,940
As purchased—									
Minimum .....	14	4.5	27.3	10.2	10.2	24.5	.....	2.4	1,365
Maximum .....	14	28.4	42.5	21.9	23.4	39.9	.....	6.0	1,890
Average .....	14	13.6	34.8	14.2	14.0	33.4	.....	4.2	1,675
Ham, smoked, fat:									
Edible portion—									
Minimum .....	4	.....	22.4	12.0	14.3	42.0	.....	.6	2,135
Maximum .....	4	.....	34.9	19.5	18.2	56.8	.....	6.5	2,652
Average .....	4	.....	27.9	14.8	16.1	52.3	.....	3.7	2,485
As purchased—									
Minimum .....	2	2.0	22.0	11.4	14.0	51.9	.....	.5	2,400
Maximum .....	2	4.8	28.3	13.4	14.5	55.6	.....	6.4	2,595
Average .....	2	3.4	25.2	12.4	14.2	53.7	.....	3.5	2,495
Ham, smoked, all analyses:									
Edible portion .....	21	.....	39.8	16.5	16.7	38.8	.....	4.7	1,945
As purchased .....	19	12.2	35.8	14.5	14.6	33.2	.....	4.2	1,670
Ham skin, as purchased .....	1	.....	27.2	15.4	16.0	53.7	.....	3.1	2,555
Ham, smoked, boiled, as purchased:									
Minimum .....	2	.....	39.2	18.1	18.2	7.8	.....	5.6	740
Maximum .....	2	.....	63.4	22.2	22.2	37.0	.....	6.6	1,900
Average .....	2	.....	51.3	20.2	20.2	22.4	.....	6.1	1,820
Ham, smoked, fried, as purchased .....	1	.....	36.6	22.2	24.4	33.2	.....	5.8	1,815
Ham, boneless, raw:									
Edible portion—									
Minimum .....	4	.....	40.3	10.0	11.4	17.3	.....	4.4	1,052
Maximum .....	4	.....	55.9	17.3	19.4	38.9	.....	6.6	1,930
Average .....	4	.....	50.1	14.9	15.4	28.5	.....	6.0	1,480
As purchased—									
Minimum .....	4	2.2	38.1	9.7	11.1	16.9	.....	4.3	1,030
Maximum .....	4	5.6	54.7	16.9	18.9	36.7	.....	7.3	1,820
Average .....	4	a 3.3	48.5	14.8	14.9	27.5	.....	5.8	1,425
Ham, luncheon, cooked:									
Edible portion—									
Minimum .....	2	.....	47.8	19.5	22.8	19.4	.....	5.0	1,290
Maximum .....	2	.....	50.5	25.5	26.1	22.7	.....	6.7	1,320
Average .....	2	.....	49.2	22.5	22.0	21.0	.....	5.8	1,305
As purchased—									
Minimum .....	2	1.5	46.5	19.0	22.2	19.1	.....	4.9	1,270
Maximum .....	2	2.8	49.7	25.1	21.8	22.0	.....	6.5	1,280
Average .....	2	a 2.1	48.1	22.1	23.5	20.6	.....	5.7	1,280
Shoulder, smoked, medium fat:									
Edible portion—									
Minimum .....	3	.....	41.5	14.2	14.6	28.8	.....	5.5	1,480
Maximum .....	3	.....	49.6	17.1	16.5	35.0	.....	8.2	1,780
Average .....	3	.....	45.0	15.9	15.8	32.5	.....	6.7	1,665
As purchased—									
Minimum .....	3	17.4	34.3	11.7	11.7	23.7	.....	4.5	1,220
Maximum .....	3	19.4	40.8	14.1	13.6	28.2	.....	6.8	1,440
Average .....	3	18.2	36.8	13.0	12.9	26.6	.....	5.5	1,365
Shoulder, smoked, fat:									
Edible portion—									
Minimum .....	2	.....	22.6	14.2	14.5	49.0	.....	4.7	2,365
Maximum .....	2	.....	30.4	15.9	14.9	58.2	.....	5.7	2,720
Average .....	2	.....	26.5	15.1	14.7	53.6	.....	5.2	2,545
As purchased—									
Minimum .....	2	14.1	16.7	10.5	10.7	42.1	.....	3.5	2,015
Maximum .....	2	26.0	26.1	13.7	12.8	43.1	.....	4.9	2,030
Average .....	2	20.0	21.4	12.1	11.8	42.6	.....	4.2	2,020
Shoulder, smoked, all analyses:									
Edible portion .....	5	.....	37.6	15.5	15.3	41.0	.....	6.1	2,020
As purchased .....	5	18.9	30.7	12.6	12.4	33.0	.....	5.0	1,625
Pigs' tongues, pickled:									
Edible portion—									
Minimum .....	2	.....	51.8	17.0	17.6	16.5	.....	.5	1,015
Maximum .....	2	.....	65.4	18.3	18.4	23.1	.....	6.7	1,310
Average .....	2	.....	58.6	17.7	18.0	19.8	.....	3.6	1,165

a Refuse, case.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, PICKLED, SALTED, AND SMOKED—cont'd.									
Pigs' tongues, pickled—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	2	1.2	49.1	16.8	17.4	16.3	.....	6.5	1,000
Maximum .....	2	5.2	64.6	17.3	17.5	21.9	.....	6.3	1,245
Average .....	2	3.2	56.8	17.1	17.5	19.1	.....	3.4	1,125
Pigs' feet, pickled:									
Edible portion—									
Minimum .....	2	.....	61.7	12.8	12.9	11.5	.....	.9	725
Maximum .....	2	.....	74.7	19.8	19.2	18.1	.....	1.0	1,130
Average .....	2	.....	68.2	16.3	16.1	14.8	.....	.9	930
As purchased—									
Minimum .....	2	26.7	34.4	9.4	9.4	8.5	.....	.5	535
Maximum .....	2	44.3	54.7	11.0	10.7	10.1	.....	.7	630
Average .....	2	35.5	44.6	10.2	10.0	9.3	.....	.6	585
Dry-salted backs:									
Edible portion—									
Minimum .....	2	.....	17.0	6.7	5.7	71.6	.....	2.2	3,180
Maximum .....	2	.....	17.6	8.7	8.6	73.8	.....	3.5	3,240
Average .....	2	.....	17.3	7.7	7.2	72.7	.....	2.8	3,210
As purchased—									
Minimum .....	2	7.0	15.8	6.2	5.3	65.0	.....	2.1	2,890
Maximum .....	2	9.2	15.9	7.9	7.8	68.6	.....	3.3	3,010
Average .....	2	8.1	15.9	7.1	6.5	66.8	.....	2.7	2,950
Dry-salted bellies:									
Edible portion—									
Minimum .....	2	.....	17.2	8.3	6.7	71.5	.....	3.2	3,170
Maximum .....	2	.....	18.1	8.5	6.8	72.9	.....	3.6	3,235
Average .....	2	.....	17.7	8.4	6.7	72.2	.....	3.4	3,200
As purchased—									
Minimum .....	2	7.1	15.6	7.7	6.0	66.1	.....	3.0	2,930
Maximum .....	2	9.3	16.8	7.7	6.3	66.4	.....	3.4	2,945
Average .....	2	8.2	16.2	7.7	6.2	66.2	.....	3.2	2,935
Salt pork, clear fat, as purchased:									
Minimum .....	7	.....	.3	.2	.6	80.3	.....	2.6	3,505
Maximum .....	7	.....	12.2	5.0	4.5	94.1	.....	5.0	3,975
Average .....	7	.....	7.0	1.9	2.0	86.2	.....	3.9	3,670
Salt pork, lean ends:									
Edible portion—									
Minimum .....	4	.....	18.2	7.7	6.6	62.3	.....	5.3	2,810
Maximum .....	4	.....	22.2	9.8	9.4	69.8	.....	6.1	3,100
Average .....	4	.....	19.0	8.4	7.3	67.1	.....	5.7	2,985
As purchased—									
Minimum .....	4	9.0	16.2	6.7	5.8	53.6	.....	4.8	2,415
Maximum .....	4	14.0	19.1	8.4	8.0	63.5	.....	5.5	2,805
Average .....	4	11.2	17.6	7.4	6.5	59.0	.....	5.1	2,655
Bacon, smoked, lean:									
Edible portion—									
Minimum .....	2	.....	30.8	13.4	12.9	40.0	.....	5.7	1,940
Maximum .....	2	.....	32.7	17.6	16.4	45.2	.....	16.3	2,435
Average .....	2	.....	31.8	15.5	14.6	42.6	.....	11.0	2,085
As purchased—									
Minimum .....	2	9.6	23.3	10.1	9.8	30.2	.....	5.1	1,460
Maximum .....	2	24.4	29.6	15.9	14.9	40.8	.....	12.3	2,020
Average .....	2	17.0	26.5	13.0	12.3	35.5	.....	8.7	1,740
Bacon, smoked, medium fat:									
Edible portion—									
Minimum .....	17	.....	7.7	6.3	6.6	57.4	.....	2.7	2,665
Maximum .....	17	.....	26.9	18.0	13.4	79.7	.....	7.9	3,480
Average .....	17	.....	18.8	9.9	9.4	67.4	.....	4.4	3,030
As purchased—									
Minimum .....	17	2.9	7.1	5.7	6.0	52.7	.....	2.4	2,425
Maximum .....	17	13.0	24.8	15.7	12.1	72.8	.....	7.2	3,180
Average .....	17	7.7	17.4	9.1	8.6	62.2	.....	4.1	2,795
Bacon, smoked, all analyses:									
Edible portion .....	19	.....	20.2	10.5	9.9	64.8	.....	5.1	2,930
As purchased .....	19	8.7	18.4	9.5	9.0	59.4	.....	4.5	2,685
Ribs, cooked, as purchased.	1	.....	33.6	24.8	26.6	37.6	.....	2.2	2,050
Steak, cooked, as purchased.	1	.....	33.2	.....	19.9	45.4	.....	1.5	2,285
PORK, CANNED.									
Brawn, boars' brains, as purchased:									
Minimum .....	2	.....	44.3	20.1	18.2	12.9	.....	4.3	1,110
Maximum .....	2	.....	53.7	30.3	28.5	33.2	.....	4.9	1,775
Average .....	2	.....	49.0	25.2	23.4	23.0	.....	4.6	1,440



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
PORK, CANNED—continued.									
Boars' heads, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	.....	50.5	19.8	17.8	19.3	.....	2.8	1,180
Maximum	2	.....	60.1	21.6	20.7	25.0	.....	3.8	1,455
Average	2	.....	55.3	20.7	19.2	22.2	.....	3.3	1,320
Ham, deviled, as purchased:									
Minimum	6	.....	38.4	16.5	16.9	29.5	.....	2.3	1,610
Maximum	6	.....	49.4	21.4	20.5	38.9	.....	4.4	1,975
Average	6	.....	44.1	19.0	18.5	34.1	.....	3.3	1,790
SAUSAGE. <i>α</i>									
Arles:									
Edible portion	1	.....	17.2	26.8	24.9	50.6	.....	7.3	2,635
As purchased	1	5.2	16.3	25.4	23.6	48.0	.....	6.9	2,495
Banquet:									
Edible portion	1	.....	62.7	18.3	17.9	15.7	.....	3.7	1,005
As purchased	1	1.6	61.7	18.0	17.7	15.4	.....	3.6	985
Bologna:									
Edible portion—									
Minimum	8	.....	53.5	15.3	15.0	11.1	0.2	3.0	820
Maximum	8	.....	67.0	21.2	20.7	24.0	.5	5.2	1,320
Average	8	.....	60.0	18.7	18.4	17.6	.3	3.7	1,095
As purchased—									
Minimum	4	2.4	51.6	14.9	14.6	13.9	.....	3.0	925
Maximum	4	4.5	59.9	20.5	20.0	23.4	.....	5.0	1,270
Average	4	3.3	55.2	18.2	18.0	19.7	.....	3.8	1,170
Farmer:									
Edible portion	1	.....	23.2	29.0	27.2	42.0	.....	7.6	2,310
As purchased	1	3.9	22.2	27.9	26.2	40.4	.....	7.3	2,225
Frankfort, as purchased:									
Minimum	8	.....	40.3	14.6	15.4	14.8	2.4	.7	985
Maximum	8	.....	64.8	26.9	26.9	25.9	8.6	8.1	1,595
Average	8	.....	57.2	19.6	19.7	18.6	1.1	3.4	1,170
Holsteiner:									
Edible portion	1	.....	25.6	29.4	29.4	37.3	3.4	4.3	2,220
As purchased	1	2.2	25.1	28.7	28.7	36.5	3.3	4.2	2,135
Lyon, pure ham:									
Edible portion	1	.....	32.5	32.3	32.3	27.2	.....	8.0	1,750
As purchased	1	10.0	29.2	29.1	29.1	24.5	.....	7.2	1,575
Pork, as purchased:									
Minimum	11	.....	25.7	7.3	7.3	28.2	.....	1.0	1,485
Maximum	11	.....	54.4	19.0	16.9	56.8	8.6	2.7	2,635
Average	11	.....	39.8	13.0	12.7	41.2	1.1	2.2	2,125
Pork sausage meat, as purchased	1	.....	46.2	17.4	17.9	32.5	.....	3.4	1,695
Pork and beef chopped together, as purchased	1	.....	55.4	19.4	19.5	24.1	.....	1.0	1,380
Salmi:									
Edible portion—									
Minimum	2	.....	28.6	23.4	22.5	37.8	.....	6.9	2,055
Maximum	2	.....	32.4	24.9	22.7	42.0	.....	7.1	2,205
Average	2	.....	30.5	24.1	22.6	39.0	.....	7.0	2,130
As purchased—									
Minimum	2	7.5	26.5	21.6	20.2	33.6	.....	6.4	1,830
Maximum	2	11.0	28.8	22.1	20.8	38.8	.....	6.4	2,040
Average	2	9.3	27.6	21.8	20.5	36.2	.....	6.4	1,935
Summer:									
Edible portion—									
Minimum	3	.....	20.0	23.5	22.8	43.0	.....	7.3	2,280
Maximum	3	.....	25.0	29.4	26.6	45.7	.....	8.0	2,480
Average	3	.....	23.2	26.0	24.6	44.5	.....	7.7	2,360
As purchased—									
Minimum	2	5.2	18.2	22.3	21.6	41.6	.....	6.9	2,215
Maximum	2	8.9	23.7	26.8	24.3	42.6	.....	7.0	2,245
Average	2	7.0	20.9	24.5	23.0	42.1	.....	7.0	2,230
Tongue, as purchased	1	.....	46.4	20.1	17.3	33.1	.....	3.2	1,770
Wienerwurst, as purchased	1	.....	43.9	28.0	.....	22.1	1.6	4.4	1,485
SAUSAGE, CANNED.									
Beef, as purchased	1	.....	59.6	17.9	17.8	20.6	.....	2.0	1,200
Bologna, Italian, as purchased	1	.....	42.6	24.9	23.2	27.8	.....	6.4	1,635

*α* In some cases the sum of the percentages of water, protein, fat, and ash in sausage does not make 100. In such cases the difference is estimated as carbohydrates. There are, however, no tests showing the presence of these, and it may be more nearly correct to give no value for carbohydrates.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
SAUSAGE, CANNED—continued.									
Frankfort, as purchased.....	1	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Oxford, as purchased.....	1	.....	72.7	14.9	14.6	9.9	.....	2.8	695
Pork:			28.9	9.9	9.9	58.5	0.6	2.1	2,665
Edible portion.....	1	.....	56.6	16.6	16.6	24.8	.....	2.0	1,355
As purchased.....	1	212.6	49.5	14.5	14.5	21.6	.....	1.8	1,180
POULTRY AND GAME, FRESH.									
Chicken, broilers:									
Edible portion—									
Minimum.....	3	.....	72.2	19.0	19.0	1.6	.....	1.0	440
Maximum.....	3	.....	76.3	25.4	24.5	4.0	.....	1.4	550
Average.....	3	.....	74.8	21.5	21.6	2.6	.....	1.1	505
As purchased—									
Minimum.....	3	31.4	44.6	9.0	8.5	1.1	.....	.5	245
Maximum.....	3	55.1	52.4	15.7	15.1	1.8	.....	.9	365
Average.....	3	41.6	43.7	12.8	12.6	1.4	.....	.7	295
Fowls:									
Edible portion—									
Minimum.....	26	.....	54.1	15.5	14.8	9.7	.....	.8	770
Maximum.....	26	.....	70.7	21.8	21.7	28.3	.....	1.5	1,520
Average.....	26	.....	63.7	19.3	19.0	16.3	.....	1.0	1,045
As purchased—									
Minimum.....	26	18.0	38.3	11.5	11.0	6.9	.....	.5	515
Maximum.....	26	42.7	53.7	16.0	15.8	21.5	.....	1.1	1,155
Average.....	26	25.9	47.1	13.7	14.0	12.3	.....	.7	775
Goose, young:									
Edible portion.....	1	.....	46.7	16.3	16.3	36.2	.....	.8	1,830
As purchased.....	1	17.6	38.5	13.4	13.4	29.8	.....	.7	1,505
Turkey:									
Edible portion—									
Minimum.....	3	.....	49.5	19.0	18.9	8.7	.....	.9	830
Maximum.....	3	.....	66.1	24.9	23.9	30.7	.....	1.3	1,650
Average.....	3	.....	55.5	21.1	20.6	22.9	.....	1.0	1,360
As purchased—									
Minimum.....	3	17.1	41.1	15.8	15.5	5.9	.....	.7	565
Maximum.....	3	32.4	44.7	16.8	16.1	25.5	.....	.9	1,370
Average.....	3	22.7	42.4	16.1	15.7	18.4	.....	.8	1,075
Chicken gizzard, as purchased.....	1	.....	72.5	24.7	24.7	1.4	.....	1.4	520
Chicken heart, as purchased.....	1	.....	72.0	20.7	21.1	5.5	.....	1.4	615
Chicken liver, as purchased.....	1	.....	69.3	22.4	.....	4.2	2.4	1.7	640
Goose gizzard.....	1	.....	73.8	19.6	19.4	5.8	.....	1.6	610
Goose liver, as purchased.....	1	.....	62.6	16.6	.....	15.9	3.7	1.2	1,050
Turkey gizzard, as purchased.....	1	.....	62.7	20.5	.....	14.5	1.2	1.1	1,015
Turkey heart, as purchased.....	1	.....	68.6	16.8	17.2	13.2	.....	1.0	870
Turkey liver, as purchased.....	1	.....	69.6	22.9	.....	5.2	.6	1.7	655
POULTRY AND GAME, COOKED.									
Capon:									
Edible portion.....	1	.....	59.9	27.0	27.3	11.5	.....	1.3	985
As purchased.....	1	10.4	53.6	24.2	24.5	10.3	.....	1.2	885
Capon, with stuffing:									
Edible portion.....	1	.....	62.1	21.8	.....	10.9	3.8	1.4	935
As purchased.....	1	7.7	57.2	20.1	.....	10.3	3.5	1.2	875
Chicken, fricasseed, edible portion.....	1	.....	67.5	17.6	.....	11.5	2.4	1.0	855
Turkey, roast, edible portion.....	1	.....	52.0	27.8	28.4	18.4	.....	1.2	1,295
Turkey, roast, light and dark meat and stuff- ing, edible portion.....	1	.....	65.0	.....	17.1	10.8	5.5	1.6	870
POULTRY AND GAME, CANNED.									
Chicken, sandwich, as purchased.....	1	.....	46.9	20.8	20.5	30.0	.....	2.6	1,655
Turkey, sandwich, as purchased.....	1	.....	47.4	20.7	20.7	29.2	.....	2.7	1,615
Plover, roast as purchased.....	1	.....	57.7	22.4	.....	10.2	7.6	2.1	985
Quail, as purchased.....	1	.....	66.9	21.8	.....	8.0	1.7	1.6	775

α Refuse liquid.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, FRESH. <i>a</i>									
Alewife, whole:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	2	.....	73.0	19.0	18.8	3.8	.....	1.4	515
Maximum .....	2	.....	75.9	19.7	19.5	6.0	.....	1.5	620
Average .....	2	.....	74.4	19.4	19.2	4.9	.....	1.5	570
As purchased—									
Minimum .....	2	49.4	36.9	9.6	9.5	1.9	.....	.8	260
Maximum .....	2	49.5	38.3	10.0	9.9	3.0	.....	.8	315
Average .....	2	49.5	37.6	9.8	9.7	2.4	.....	.8	285
Bass, black, whole:									
Edible portion—									
Minimum .....	2	.....	74.8	19.4	19.2	1.0	.....	1.2	405
Maximum .....	2	.....	78.6	21.7	21.5	2.5	.....	1.2	510
Average .....	2	.....	76.7	20.6	20.4	1.7	.....	1.2	455
As purchased—									
Minimum .....	2	53.6	34.6	8.5	8.5	.4	.....	.5	175
Maximum .....	2	56.0	34.7	10.1	10.0	1.1	.....	.6	235
Average .....	2	54.8	34.6	9.3	9.3	.8	.....	.5	205
Bass, red, whole:									
Edible portion .....	1	.....	81.6	16.9	16.7	.5	.....	1.2	335
As purchased .....	1	63.5	29.8	6.2	6.1	.2	.....	.4	125
Bass, sea, whole:									
Edible portion .....	1	.....	79.3	19.8	18.8	.5	.....	1.4	390
As purchased .....	1	56.1	34.8	8.7	8.3	.2	.....	.6	170

*a* A considerable number of determinations of phosphorus, sulphur, and chlorine have been made in the flesh of fresh fish. These are recorded in the following table in terms of phosphoric anhydride (P<sub>2</sub>O<sub>5</sub>), sulphuric anhydride (SO<sub>3</sub>), and chlorine (Cl), and in percentages of the total weight of "edible portion" or flesh:

## Phosphoric anhydride, sulphuric anhydride, and chlorine in samples of fresh fish.

Kind of fish.	Phosphoric anhydride.		Sulphuric anhydride.		Chlorine.	
	Number of determinations.	Average.	Number of determinations.	Average.	Number of determinations.	Average.
Alewife .....	1	<i>Per cent.</i>		<i>Per cent.</i>		<i>Per cent.</i>
Bass:		0.50				
Black .....	1	.44	1	0.89		
Striped .....	2	.48	1	.47		
Blackfish .....	1	.52	1	.46	1	0.24
Bluefish .....	1	.62				
Cod .....	2	.45				
Eels, salt water .....	1	.51				
Flounder .....	2	.40	2	.42		
Haddock .....	2	.47	1	.41		
Halibut .....	2	.44	1	.49		
Herring .....	1	.55	1	.55		
Mackerel .....	4	.56	2	.47		
Muskellunge .....	1	.52	1	.37		
Perch:						
White .....	2	.44	2	.65		
Pike .....	1	.46	1	.90		
Porgy .....	2	.59	1	.52		
Red snapper .....	2	.47	2	.47		
Salmon .....	2	.57	1	.61		
Landlocked .....	2	.51	2	.40		
California .....	1	.69	1	.43		
Shad .....	2	.60	1	.52		
Sheepshead .....	1	.45	1	.18		
Smelt .....	1	.81	1	.55		
Spanish mackerel .....	1	.60	1	.58		
Trout, brook .....	1	.61	1	.48		
Turbot .....	1	.48	1	.32		
Whitefish .....	1	.71	1	.41		



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Bass, striped, whole:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum .....	6	.....	75.8	17.1	16.9	1.6	.....	0.9	405
Maximum .....	6	.....	79.6	19.5	19.3	4.6	.....	1.4	530
Average .....	6	.....	77.7	18.6	18.3	2.8	.....	1.2	465
As purchased—									
Minimum .....	5	48.6	32.5	7.4	7.2	.7	.....	.5	175
Maximum .....	5	57.1	39.7	9.8	9.7	1.6	.....	.6	255
Average .....	5	55.0	35.1	8.4	8.3	1.1	.....	.5	200
Bass, striped, entrails removed, as purchased.	1	51.2	37.4	8.8	8.7	2.2	.....	.5	255
Blackfish, whole:									
Edible portion—									
Minimum .....	4	.....	76.9	17.6	17.4	.6	.....	.6	350
Maximum .....	4	.....	81.4	19.3	19.0	2.8	.....	1.4	475
Average .....	4	.....	79.1	18.7	18.5	1.3	.....	1.1	405
As purchased—									
Minimum .....	2	56.2	29.2	6.3	6.3	.2	.....	.2	125
Maximum .....	2	64.1	33.7	8.5	8.3	1.2	.....	.6	205
Average .....	2	60.2	31.4	7.4	7.3	.7	.....	.4	165
Blackfish, entrails removed, as purchased:									
Minimum .....	2	53.6	33.5	8.0	7.9	.4	.....	.4	125
Maximum .....	2	57.8	36.4	8.8	8.7	.7	.....	.6	205
Average .....	2	55.7	35.0	8.4	8.3	.5	.....	.5	175
Bluefish, entrails removed:									
Edible portion .....	1	.....	78.5	19.4	19.0	1.2	.....	1.3	410
As purchased .....	1	48.6	40.3	10.0	9.8	.6	.....	.7	210
Buffalo fish, entrails removed:									
Edible portion .....	1	.....	78.6	18.0	17.9	2.3	.....	1.2	430
As purchased .....	1	52.5	37.3	8.5	8.5	1.1	.....	.6	205
Butter-fish, whole:									
Edible portion .....	1	.....	70.0	18.0	17.8	11.0	.....	1.2	800
As purchased .....	1	42.8	40.1	10.3	10.2	6.3	.....	.6	460
Catfish:									
Edible portion .....	1	.....	64.1	14.4	14.4	20.6	.....	.9	1,135
As purchased .....	1	19.4	51.7	11.6	11.6	16.6	.....	.7	915
Ciscoe, whole:									
Edible portion—									
Minimum .....	3	.....	72.3	17.7	17.6	3.5	.....	.9	505
Maximum .....	3	.....	76.1	19.3	19.1	9.2	.....	1.3	715
Average .....	3	.....	74.0	18.5	18.1	6.8	.....	1.1	630
As purchased .....	1	42.7	43.6	11.1	11.0	2.0	.....	.7	290
Ciscoe, entrails removed, as purchased:									
Minimum .....	2	6.5	62.4	15.3	15.4	7.2	.....	.8	615
Maximum .....	2	13.7	68.8	17.2	16.5	7.8	.....	1.0	625
Average .....	2	10.1	65.6	16.3	15.9	7.5	.....	.9	620
Cod, whole:									
Edible portion—									
Minimum .....	5	.....	80.7	15.5	14.9	.3	.....	1.0	300
Maximum .....	5	.....	83.5	18.3	17.6	.5	.....	1.4	370
Average .....	5	.....	82.6	16.5	15.8	.4	.....	1.2	325
As purchased—									
Minimum .....	2	48.5	35.1	8.0	7.7	.1	.....	.6	155
Maximum .....	2	56.5	42.3	8.7	8.3	.3	.....	.6	175
Average .....	2	52.5	38.7	8.4	8.0	.2	.....	.6	165
Cod, dressed, as purchased:									
Minimum .....	3	25.5	55.3	10.3	9.9	.2	.....	.8	200
Maximum .....	3	33.7	62.1	11.8	11.4	.3	.....	.9	230
Average .....	3	29.9	58.5	11.1	10.6	.2	.....	.8	215
Cod, sections, edible portion:									
Minimum .....	3	.....	81.8	15.6	15.0	.1	.....	.8	300
Maximum .....	3	.....	83.5	17.7	17.2	.5	.....	1.0	335
Average .....	3	.....	82.5	16.7	16.3	.3	.....	.9	325
Cod, steaks:									
Edible portion .....	1	.....	79.7	18.7	18.6	.5	.....	1.2	370
As purchased .....	1	9.2	72.4	17.0	16.9	.5	.....	1.0	335
Cusk, entrails removed:									
Edible portion .....	1	.....	82.0	17.0	16.9	.2	.....	.9	325
As purchased .....	1	40.3	49.0	10.1	10.1	.1	.....	.5	190
Eels, salt water, head, skin, and entrails re- moved:									
Edible portion—									
Minimum .....	2	.....	69.8	17.8	17.6	7.9	.....	.9	665
Maximum .....	2	.....	73.4	19.3	19.0	10.3	.....	1.1	795
Average .....	2	.....	71.6	18.6	18.3	9.1	.....	1.0	730



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N $\times$ 3.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Eel, salt water, head, skin, and entrails re- moved—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum.....	2	19.0	54.9	14.4	14.3	6.4	.....	0.7	540
Maximum.....	2	21.4	59.4	15.2	14.9	8.1	.....	.9	625
Average.....	2	20.2	57.2	14.8	14.6	7.2	.....	.8	580
Flounder, whole:									
Edible portion—									
Minimum.....	3	.....	83.4	13.3	12.9	.4	.....	1.2	280
Maximum.....	3	.....	85.0	14.9	14.7	.8	.....	1.3	305
Average.....	3	.....	84.2	14.2	13.9	.6	.....	1.3	290
As purchased—									
Minimum.....	2	56.2	28.2	4.4	4.2	.2	.....	.5	95
Maximum.....	2	66.8	37.0	6.3	6.1	.3	.....	.5	130
Average.....	2	61.5	32.6	5.4	5.1	.3	.....	.5	115
Flounder, entrails removed, as purchased.....	1	57.0	35.8	6.4	6.3	.3	.....	.6	130
Haddock, entrails removed:									
Edible portion—									
Minimum.....	4	.....	80.3	16.3	15.9	.1	.....	1.0	315
Maximum.....	4	.....	82.6	18.6	18.4	.4	.....	1.6	355
Average.....	4	.....	81.7	17.2	16.8	.3	.....	1.2	335
As purchased—									
Minimum.....	4	48.0	38.5	8.0	7.8	.1	.....	.5	155
Maximum.....	4	52.9	42.9	9.0	8.9	.2	.....	.8	170
Average.....	4	51.0	40.0	8.4	8.2	.2	.....	.6	165
Hake, entrails removed:									
Edible portion.....	1	.....	83.1	15.4	15.2	.7	.....	1.0	315
As purchased.....	1	52.5	39.5	7.3	7.2	.3	.....	.5	150
Halibut, steaks or sections:									
Edible portion—									
Minimum.....	3	.....	70.1	17.5	17.5	2.2	.....	.9	420
Maximum.....	3	.....	79.2	19.7	19.4	10.6	.....	1.1	790
Average.....	3	.....	75.4	18.6	18.4	5.2	.....	1.0	565
As purchased—									
Minimum.....	3	11.2	60.9	13.5	13.4	1.7	.....	.7	325
Maximum.....	3	23.1	62.6	16.4	16.1	9.4	.....	1.0	700
Average.....	3	17.7	61.9	15.3	15.1	4.4	.....	.9	470
Herring, whole:									
Edible portion—									
Minimum.....	2	.....	69.5	19.1	18.5	3.2	.....	1.5	505
Maximum.....	2	.....	76.0	19.8	19.2	11.0	.....	1.6	820
Average.....	2	.....	72.5	19.5	18.9	7.1	.....	1.5	660
As purchased—									
Minimum.....	2	39.3	37.3	10.3	10.0	1.9	.....	.8	305
Maximum.....	2	46.0	46.1	12.0	11.7	5.9	.....	1.0	440
Average.....	2	42.6	41.7	11.2	10.9	3.9	.....	.9	375
Kingfish, whole:									
Edible portion.....	1	.....	79.2	18.9	18.7	.9	.....	1.2	390
As purchased.....	1	56.6	34.4	8.2	8.1	.4	.....	.5	170
Lamprey, whole:									
Edible portion.....	1	.....	71.1	15.0	14.9	13.3	.....	.7	840
As purchased.....	1	45.8	38.5	8.1	8.1	7.2	.....	.4	455
Mackerel, whole:									
Edible portion—									
Minimum.....	0	.....	64.0	17.5	17.5	2.2	.....	1.0	430
Maximum.....	6	.....	78.7	19.5	19.2	16.3	.....	1.5	1,045
Average.....	6	.....	73.4	18.7	18.3	7.1	.....	1.2	645
As purchased—									
Minimum.....	5	33.8	35.8	8.4	8.4	1.4	.....	.6	265
Maximum.....	5	51.8	48.5	12.6	12.1	10.7	.....	1.0	685
Average.....	5	44.7	40.4	10.2	10.0	4.2	.....	.7	365
Mackerel, entrails removed, as purchased.....	1	40.7	43.7	11.6	11.4	3.5	.....	.7	365
Mullet, whole:									
Edible portion.....	1	.....	74.9	19.5	19.3	4.6	.....	1.2	555
As purchased.....	1	57.9	81.5	8.2	8.1	2.0	.....	.5	235
Muskellunge, whole:									
Edible portion.....	1	.....	76.3	20.2	19.6	2.5	.....	1.6	480
As purchased.....	1	49.2	38.7	10.2	10.0	1.3	.....	.8	245
Perch, white, whole:									
Edible portion—									
Minimum.....	2	.....	75.6	18.0	17.7	2.5	.....	1.1	490
Maximum.....	2	.....	75.8	20.0	20.4	5.6	.....	1.3	570
Average.....	2	.....	75.7	19.3	19.1	4.0	.....	1.2	530

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Perch, white, whole—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Minimum .....	2	61.8	27.8	6.6	6.5	1.0	.....	0.4	190
Maximum .....	2	63.2	28.9	7.9	7.8	2.1	.....	.5	210
Average .....	2	62.5	28.4	7.3	7.2	1.5	.....	.4	200
Perch, pike (wall-eyed pike):									
Edible portion .....	1	.....	79.7	18.6	18.4	.5	.....	1.4	365
As purchased .....	1	57.3	34.0	7.9	7.9	.2	.....	.6	155
Perch, yellow, whole:									
Edible portion—									
Minimum .....	2	.....	78.1	17.8	17.9	.6	.....	1.1	355
Maximum .....	2	.....	80.4	19.7	19.5	1.1	.....	1.3	410
Average .....	2	.....	79.3	18.7	18.7	.8	.....	1.2	380
As purchased .....	1	62.7	30.0	6.6	6.7	.2	.....	.4	130
Perch, yellow, dressed, as purchased .....	1	35.1	50.7	12.8	12.6	.7	.....	.9	265
Pickerel, pike, whole:									
Edible portion—									
Minimum .....	3	.....	79.5	18.4	18.4	.5	.....	1.1	365
Maximum .....	3	.....	79.9	19.0	18.9	.6	.....	1.2	375
Average .....	3	.....	79.8	18.7	18.6	.5	.....	1.1	370
As purchased—									
Minimum .....	2	45.4	40.8	9.8	9.7	.2	.....	.6	190
Maximum .....	2	48.7	43.6	10.0	10.0	.3	.....	.7	200
Average .....	2	47.1	42.2	9.9	9.9	.2	.....	.6	190
Pickerel, pike, entrails removed, as purchased .....	1	42.7	45.7	10.7	10.7	.3	.....	.6	210
Pike, gray, whole:									
Edible portion .....	1	.....	80.8	17.9	17.3	.8	.....	1.1	365
As purchased .....	1	63.2	29.7	6.6	6.4	.3	.....	.4	135
Pollock, dressed:									
Edible portion .....	1	.....	76.0	21.6	21.7	.8	.....	1.5	435
As purchased .....	1	28.5	54.3	15.4	15.5	.6	.....	1.1	310
Pompano, whole:									
Edible portion—									
Minimum .....	2	.....	67.4	18.4	18.1	1.6	.....	1.0	425
Maximum .....	2	.....	78.2	19.3	19.2	13.5	.....	1.0	910
Average .....	2	.....	72.8	18.8	18.7	7.5	.....	1.0	665
As purchased—									
Minimum .....	2	42.4	38.8	9.9	9.9	.8	.....	.5	220
Maximum .....	2	48.6	40.2	10.6	10.5	7.8	.....	.5	525
Average .....	2	45.5	39.5	10.3	10.2	4.3	.....	.5	375
Porgy, whole:									
Edible portion—									
Minimum .....	3	.....	72.0	17.4	17.4	1.5	.....	1.3	385
Maximum .....	3	.....	79.7	19.4	19.3	7.9	.....	1.4	685
Average .....	3	.....	75.0	18.6	18.5	5.1	.....	1.4	560
As purchased—									
Minimum .....	3	57.3	27.8	6.1	6.1	.5	.....	.5	135
Maximum .....	3	65.1	31.1	8.2	8.2	3.4	.....	.6	295
Average .....	3	60.0	29.9	7.4	7.4	2.1	.....	.6	225
Red grouper, entrails removed:									
Edible portion—									
Minimum .....	2	.....	79.0	18.7	18.4	.5	.....	1.1	370
Maximum .....	2	.....	79.9	19.8	19.2	.7	.....	1.2	395
Average .....	2	.....	79.5	19.3	18.8	.6	.....	1.1	385
As purchased—									
Minimum .....	2	55.8	34.8	8.3	8.2	.2	.....	.5	160
Maximum .....	2	55.9	35.3	8.7	8.5	.3	.....	.5	170
Average .....	2	55.9	35.0	8.5	8.4	.2	.....	.5	165
Red snapper, whole:									
Edible portion—									
Minimum .....	3	.....	77.4	19.3	18.4	.5	.....	1.3	380
Maximum .....	3	.....	79.8	20.2	19.9	1.9	.....	1.3	445
Average .....	3	.....	78.5	19.7	19.2	1.0	.....	1.3	410
As purchased—									
Minimum .....	2	39.6	36.8	9.4	9.2	.4	.....	.6	215
Maximum .....	2	52.5	47.2	12.2	12.0	.9	.....	.8	245
Average .....	2	46.1	42.0	10.8	10.6	.6	.....	.7	225
Red snapper, entrails and gills removed, as purchased .....	1	45.3	43.7	10.6	10.0	.3	.....	.7	210
Salmon, whole:									
Edible portion—									
Minimum .....	6	.....	61.0	19.4	19.1	10.2	.....	1.1	790
Maximum .....	6	.....	69.5	25.2	24.5	15.0	.....	1.6	1,035
Average .....	6	.....	64.6	22.0	21.2	12.8	.....	1.4	950

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Salmon, whole—Continued.									
As purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	4	30.8	39.5	14.4	13.3	7.9	.....	0.9	510
Maximum .....	4	39.5	45.0	15.9	15.6	10.0	.....	1.0	690
Average .....	4	34.9	40.9	15.3	14.4	8.9	.....	.9	660
Salmon, entrails removed, as purchased:									
Minimum .....	2	23.8	45.0	12.6	12.4	6.6	.....	.8	510
Maximum .....	2	35.2	51.2	15.0	14.6	9.5	.....	.9	680
Average .....	2	29.5	48.1	13.8	13.5	8.1	.....	.8	600
Salmon, landlocked, whole, spent:									
Edible portion—									
Minimum .....	4	.....	75.3	16.6	16.8	2.0	.....	1.1	395
Maximum .....	4	.....	79.2	19.1	19.2	4.4	.....	1.2	500
Average .....	4	.....	77.7	17.8	17.8	3.3	.....	1.2	470
As purchased—									
Minimum .....	4	43.5	40.2	8.9	8.7	1.0	.....	.6	205
Maximum .....	4	48.4	44.2	10.7	10.8	2.5	.....	.7	305
Average .....	4	45.5	42.3	9.7	9.8	1.8	.....	.6	255
Salmon, California, anterior sections:									
Edible portion—									
Minimum .....	2	.....	62.7	17.0	17.0	16.5	.....	1.0	1,040
Maximum .....	2	.....	64.5	18.6	18.0	19.2	.....	1.1	1,125
Average .....	2	.....	63.6	17.8	17.5	17.8	.....	1.1	1,080
As purchased .....	1	10.3	57.9	16.7	16.1	14.8	.....	.9	935
Shad, whole:									
Edible portion—									
Minimum .....	7	.....	65.2	18.1	17.7	6.5	.....	.9	635
Maximum .....	7	.....	73.6	20.1	20.0	13.6	.....	1.5	945
Average .....	7	.....	70.6	18.8	18.6	9.5	.....	1.3	750
As purchased—									
Minimum .....	7	44.4	30.3	7.5	7.4	2.9	.....	.5	260
Maximum .....	7	58.8	39.5	10.7	10.5	7.3	.....	.8	505
Average .....	7	50.1	35.2	9.4	9.2	4.8	.....	.7	380
Shad, roe, as purchased .....	1	.....	71.2	20.9	.....	3.8	2.6	1.5	600
Sheepshead, whole:									
Edible portion—									
Minimum .....	2	.....	72.0	19.4	18.9	.7	.....	1.1	390
Maximum .....	2	.....	79.1	20.8	20.2	6.7	.....	1.3	670
Average .....	2	.....	75.6	20.1	19.5	3.7	.....	1.2	530
As purchased .....	1	66.0	26.9	6.6	6.4	.2	.....	.5	130
Sheepshead, entrails removed, as purchased ..	1	56.6	31.2	9.0	8.8	2.9	.....	.5	290
Skate, lobe of body:									
Edible portion .....	1	.....	82.2	18.2	15.3	1.4	.....	1.1	400
As purchased .....	1	51.0	40.2	8.9	7.5	.7	.....	.6	195
Smelt, whole:									
Edible portion—									
Minimum .....	2	.....	78.2	16.5	15.9	1.6	.....	1.4	385
Maximum .....	2	.....	80.2	18.7	18.8	1.9	.....	2.0	415
Average .....	2	.....	79.2	17.6	17.3	1.8	.....	1.7	405
As purchased—									
Minimum .....	2	34.8	39.9	9.5	9.6	.8	.....	.7	210
Maximum .....	2	49.0	52.3	10.8	10.4	1.2	.....	1.3	250
Average .....	2	41.9	46.1	10.1	10.0	1.0	.....	1.0	230
Spanish mackerel, whole:									
Edible portion .....	1	.....	68.1	21.5	21.0	9.4	.....	1.5	705
As purchased .....	1	34.6	44.5	14.1	13.7	6.2	.....	1.0	525
Sturgeon, anterior sections:									
Edible portion .....	1	.....	78.7	18.1	18.0	1.9	.....	1.4	415
As purchased .....	1	14.4	67.4	15.1	15.4	1.6	.....	1.2	350
Tomcod, whole:									
Edible portion .....	1	.....	81.5	17.2	17.1	.4	.....	1.0	335
As purchased .....	1	50.9	32.7	6.9	6.8	.2	.....	.4	135
Trout, brook, whole:									
Edible portion—									
Minimum .....	3	.....	75.8	18.6	18.4	.8	.....	1.0	385
Maximum .....	3	.....	79.8	20.3	20.0	2.9	.....	1.4	500
Average .....	3	.....	77.8	19.2	18.9	2.1	.....	1.2	445
As purchased—									
Minimum .....	3	45.2	38.6	9.3	9.2	.4	.....	.5	210
Maximum .....	3	50.1	43.8	10.1	10.2	1.5	.....	.7	255
Average .....	3	48.1	40.4	9.9	9.8	1.1	.....	.6	230



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, FRESH—continued.									
Trout, salmon or lake:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	2	.....	68.8	17.6	17.3	8.1	.....	1.0	675
Maximum .....	2	.....	72.9	17.9	18.0	12.6	.....	1.3	860
Average .....	2	.....	70.8	17.8	17.7	10.3	.....	1.2	765
As purchased—									
Minimum .....	2	40.7	30.0	7.7	7.7	4.8	.....	.6	370
Maximum .....	2	56.3	43.2	10.6	10.7	5.4	.....	.6	400
Average .....	2	48.5	36.6	9.1	9.2	5.1	.....	.6	385
Turbot:									
Edible portion .....	1	.....	71.4	14.8	12.9	14.4	.....	1.3	885
As purchased .....	1	47.7	37.3	7.7	6.8	7.5	.....	.7	460
Weakfish, whole:									
Edible portion .....	1	.....	79.0	17.8	17.4	2.4	.....	1.2	430
As purchased .....	1	51.9	38.0	8.6	8.4	1.1	.....	.6	205
Whitefish, whole:									
Edible portion .....	1	.....	69.8	22.9	22.1	6.5	.....	1.6	700
As purchased .....	1	53.5	32.5	10.6	10.3	3.0	.....	.7	325
FISH, COOKED.									
Bluefish, cooked, edible portion .....	1	.....	68.2	25.9	26.1	4.5	.....	1.2	670
Spanish mackerel, broiled:									
Edible portion .....	1	.....	68.9	23.7	23.2	6.5	.....	1.4	715
As purchased .....	1	7.9	63.5	21.8	21.4	5.9	.....	1.3	655
FISH, PRESERVED AND CANNED. <i>a</i>									
Cod, salt: <i>b</i>									
Edible portion—									
Minimum .....	2	.....	53.5	24.9	21.2	.2	.....	24.4	405
Maximum .....	2	.....	53.6	25.9	21.7	.4	.....	25.0	420
Average .....	2	.....	53.5	25.4	21.5	.3	.....	<i>c</i> 24.7	410
As purchased—									
Minimum .....	2	24.3	40.0	18.5	15.7	.3	.....	18.4	300
Maximum .....	2	25.5	40.5	19.6	16.4	.4	.....	18.5	320
Average .....	2	24.9	40.2	19.0	16.0	.4	.....	18.5	315

*a* A considerable number of determinations of phosphorus, sulphur, and chlorine have been made in the flesh of preserved and canned fish. These are recorded in the following table in terms of phosphoric anhydride ( $P_2O_5$ ), sulphuric anhydride ( $SO_3$ ), and chlorine (Cl), and in percentages of the total weight of "edible portion" or flesh:

*Phosphoric anhydride, sulphuric anhydride, and chlorine in samples of preserved and canned fish.*

Kind of fish.	Phosphoric anhydride.		Sulphuric anhydride.		Chlorine.	
	Number of determinations.	Average.	Number of determinations.	Average.	Number of determinations.	Average.
		<i>Per cent.</i>		<i>Per cent.</i>		<i>Per cent.</i>
Cod, salt .....	2	0.25	2	0.74	2	11.92
Cod, salt, boneless .....	1	.36	1	.68	1	11.19
Halibut, smoked .....	1	.47	1	.44	1	8.66
Herring, smoked .....	1	.84	1	1.24	1	7.21
Mackerel, salt .....	1	.35	1	.61	.....	.....
Salmon, canned .....	1	.61	1	.44	.....	.....

*b* It is observable that in salt cod the proportion of protein by difference is much smaller than by factor. The former value is apparently more nearly correct, and has been used in estimating the fuel value per pound.

*c* Two samples averaged 23 per cent common salt.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, PRESERVED AND CANNED—continued.									
Cod, salt, "boneless":									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	-----	54.4	26.3	22.2	0.3	-----	14.9	425
Maximum	2	-----	55.7	28.2	29.1	.3	-----	23.1	555
Average	2	-----	55.0	27.3	25.7	.3	-----	a19.0	490
As purchased	1	1.6	54.8	27.7	28.6	.3	-----	14.7	545
Haddock, smoked:									
Edible portion	1	-----	72.5	23.3	23.7	.2	-----	3.6	440
As purchased	1	32.2	49.2	15.8	16.1	.1	-----	2.4	305
Haddock, smoked, cooked, canned, as pur- chased	1	-----	68.7	22.3	21.8	2.3	-----	7.2	510
Halibut, smoked:									
Edible portion—									
Minimum	2	-----	47.7	18.5	18.1	14.4	-----	14.9	1,000
Maximum	2	-----	51.1	23.0	23.0	15.6	-----	15.2	1,035
Average	2	-----	49.4	20.7	20.6	15.0	-----	b15.0	1,020
As purchased—									
Minimum	2	5.9	44.9	17.0	16.7	13.6	-----	13.9	925
Maximum	2	8.0	47.0	21.6	21.6	14.4	-----	14.0	975
Average	2	7.0	46.0	19.3	19.1	14.0	-----	13.9	950
Herring, smoked:									
Edible portion	1	-----	34.6	36.9	36.4	15.8	-----	c13.2	1,355
As purchased	1	44.4	19.2	20.5	20.2	8.8	-----	7.4	750
Lamprey, canned:									
Edible portion	1	-----	63.3	16.9	-----	12.2	3.6	4.0	895
As purchased	1	d18.2	51.7	13.8	-----	10.0	3.0	3.3	735
Mackerel, salt, entrails removed:									
Edible portion	1	-----	42.2	21.1	22.0	22.6	-----	e13.2	1,345
As purchased	1	22.9	32.5	16.3	17.0	17.4	-----	10.2	1,035
Mackerel, salt, canned, as purchased	1	-----	68.2	19.6	19.9	8.7	-----	3.2	730
Mackerel, salt, canned in oil:									
Edible portion	1	-----	58.3	25.4	23.5	14.1	-----	4.1	1,065
As purchased	1	d31.5	39.9	17.4	16.1	9.7	-----	2.8	735
Mackorel, salt, dressed:									
Edible portion—									
Minimum	2	-----	43.2	16.6	16.9	24.9	-----	12.0	1,345
Maximum	2	-----	43.6	17.9	17.7	27.9	-----	13.8	1,485
Average	2	-----	43.4	17.3	17.3	26.4	-----	f12.9	1,435
As purchased—									
Minimum	2	17.0	33.8	13.8	13.7	19.3	-----	10.0	1,075
Maximum	2	22.4	35.8	13.9	14.0	23.2	-----	10.8	1,285
Average	2	19.7	34.8	13.9	13.9	21.2	-----	10.4	1,155
Minogy, pickled, canned:									
Edible portion	1	-----	56.5	22.0	21.9	18.6	-----	3.0	1,195
As purchased	1	g18.7	46.0	17.9	17.8	15.1	-----	2.4	970
Pilchard in tomatoes, canned, Russia, as pur- chased	1	-----	52.7	27.9	27.5	15.8	-----	4.0	1,185
Salmon, canned:									
Edible portion—									
Minimum	7	-----	57.5	19.5	19.2	5.3	-----	1.8	675
Maximum	7	-----	67.1	24.3	24.3	21.5	-----	3.5	1,270
Average	7	-----	63.5	21.8	21.8	12.1	-----	2.6	915
As purchased—									
Minimum	3	11.7	54.6	18.6	18.3	5.6	-----	1.5	615
Maximum	3	16.9	58.2	20.2	20.3	9.8	-----	2.4	760
Average	3	14.2	56.8	19.5	19.5	7.5	-----	2.0	680
Sardines, canned:									
Edible portion—									
Minimum	2	-----	48.2	21.2	19.4	12.7	-----	5.6	1,000
Maximum	2	-----	56.4	24.0	25.3	26.7	-----	5.7	1,520
Average	2	-----	52.3	23.0	22.4	19.7	-----	5.6	1,260
As purchased	1	d5.0	53.6	23.7	24.0	12.1	-----	5.3	950
Sturgeon, dried, Russia:									
Edible portion	1	-----	50.6	31.8	32.2	9.6	-----	7.6	995
As purchased	1	12.7	44.1	27.8	28.1	8.4	-----	6.7	870
Sturgeon, caviare, pressed, Russian, as pur- chased	1	-----	38.1	30.0	-----	10.7	7.6	4.6	1,530

a One sample contained 19.1 per cent common salt.

b One sample contained 12.1 per cent common salt.

c Contained 11.7 per cent common salt.

d Refuse, oil.

e Contained 9.2 per cent common salt.

f Contained 10.4 per cent common salt.

g Refuse, liquids.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
FISH, PRESERVED AND CANNED—continued.									
Trout, brook:									
Edible portion.....	1	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
As purchased.....	1	3.5	68.4	22.3	22.8	6.1	-----	3.7	670
Tunney, as purchased.....	1	-----	66.1	21.5	20.9	5.9	-----	3.6	650
Tunney, canned in oil, Russia:									
Edible portion.....	1	-----	72.7	21.7	21.5	4.1	-----	1.7	575
As purchased.....	1	a16.7	51.3	23.8	-----	20.0	0.6	4.3	1,300
	1		42.7	20.3	-----	16.7	-----	3.6	1,085
AMPHIBIA.									
Frogs' legs:									
Edible portion—									
Minimum.....	2	-----	81.2	13.2	12.8	.2	-----	.8	255
Maximum.....	2	-----	86.2	17.7	17.4	.2	-----	1.2	335
Average.....	2	-----	83.7	15.5	15.1	.2	-----	1.0	295
As purchased—									
Minimum.....	2	31.3	54.8	9.1	8.8	.1	-----	.6	175
Maximum.....	2	32.6	59.1	12.0	11.7	.2	-----	.8	225
Average.....	2	32.0	56.9	10.5	10.3	.1	-----	.7	200
SHELLFISH, ETC., FRESH. <i>b</i>									
Clams, long, in shell:									
Edible portion—									
Minimum.....	4	-----	85.0	8.1	-----	1.0	1.6	2.0	225
Maximum.....	4	-----	86.1	9.0	-----	1.2	2.5	3.0	255
Average.....	4	-----	85.8	8.6	-----	1.0	2.0	2.6	240
As purchased—									
Minimum.....	4	39.9	47.2	4.4	-----	.5	.9	1.2	120
Maximum.....	4	45.2	51.7	5.2	-----	.7	1.5	1.7	150
Average.....	4	41.9	49.9	5.0	-----	.6	1.1	1.5	140
Clams, round, in shell:									
Edible portion.....	1	-----	86.2	6.5	-----	.4	4.2	2.7	215
As purchased.....	1	67.5	28.0	2.1	-----	.1	1.4	.9	70
Clams, round, removed from shell, as pur- chased.....	1	-----	80.8	10.6	-----	1.1	5.2	2.3	340
Crabs, hardshell, whole:									
Edible portion.....	1	-----	77.1	16.6	-----	2.0	1.2	3.1	415
As purchased.....	1	52.4	36.7	7.9	-----	.9	.6	1.5	195
Crayfish, abdomen, whole:									
Edible portion.....	1	-----	81.2	16.0	-----	.5	1.0	1.3	340
As purchased.....	1	c86.6	10.9	2.1	-----	.1	.1	.2	45

*a* Refuse, oil.*b* A considerable number of determinations of phosphorous and sulphur have been made in the flesh of shellfish. These are recorded in the following table in terms of phosphoric anhydride (P<sub>2</sub>O<sub>5</sub>) and sulphuric anhydride (SO<sub>3</sub>) and in percentages of the total weight of "edible portion" or flesh:

## Phosphoric anhydride and sulphuric anhydride in samples of shellfish.

Kind of fish.	Phosphoric anhy- drid.		Sulphuric anhy- drid.	
	Number of de- termi- nations.	Average.	Number of de- termi- nations.	Average.
		<i>Per cent.</i>		<i>Per cent.</i>
Clams, long.....	2	0.48	2	0.56
Clams, round.....	1	.40	1	.89
Crayfish.....	1	.53	1	.26
Lobster.....	3	.38	3	.42
Oysters.....	14	.30	14	.68
Scallops.....	2	.48	2	.49
Lobster, canned.....	1	.23	1	.48
Oysters, canned.....	1	.35	1	.20

*c* Refuse of whole.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
SHELLFISH, ETC., FRESH—continued.									
Lobster, whole:									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	5	.....	68.6	11.6	.....	1.5	.....	1.6	345
Maximum .....	5	.....	84.3	25.4	.....	2.5	0.9	4.0	555
Average .....	5	.....	79.2	16.4	.....	1.8	.4	2.2	390
As purchased—									
Minimum .....	5	44.0	18.0	4.4	.....	.5	.....	.6	115
Maximum .....	5	73.7	47.2	6.7	.....	.9	.4	1.0	165
Average .....	5	61.7	30.7	5.9	.....	.7	.2	.8	140
Mussels, in shell:									
Edible portion .....	1	.....	84.2	8.7	.....	1.1	4.1	1.9	285
As purchased .....	1	46.7	44.9	4.6	.....	.6	2.2	1.0	150
Oysters in shell:									
Edible portion—									
Minimum .....	34	.....	81.7	4.2	.....	.6	1.8	1.2	135
Maximum .....	34	.....	91.4	10.0	.....	1.9	6.7	2.8	370
Average .....	34	.....	86.9	6.2	.....	1.2	3.7	2.0	235
As purchased—									
Minimum .....	34	74.0	10.7	.7	.....	.1	.2	.2	15
Maximum .....	34	88.3	23.1	1.8	.....	.4	1.3	.6	65
Average .....	34	81.4	16.1	1.2	.....	.2	.7	.4	45
Oysters, solids, as purchased:									
Minimum .....	9	.....	82.2	4.5	.....	.5	1.5	.7	135
Maximum .....	9	.....	92.4	7.3	.....	1.8	6.2	2.5	325
Average .....	9	.....	88.8	6.0	.....	1.3	3.3	1.1	230
Scallops, as purchased:									
Minimum .....	2	.....	77.8	14.5	.....	.....	1.1	1.3	305
Maximum .....	2	.....	82.8	15.1	.....	.3	5.6	1.5	385
Average .....	2	.....	80.3	14.8	.....	.1	3.4	1.4	345
Terrapin:									
Edible portion .....	1	.....	74.5	21.2	21.0	3.5	.....	1.0	545
As purchased .....	1	75.4	18.3	5.2	5.2	.9	.....	.2	135
Turtle, green, whole:									
Edible portion .....	1	.....	79.8	19.8	18.5	.5	.....	1.2	390
As purchased .....	1	76.0	19.2	4.7	4.4	.1	.....	.3	90
SHELLFISH, ETC., CANNED.									
Clams, long, as purchased .....	1	.....	84.5	9.0	.....	1.3	2.9	2.3	275
Clams, round, as purchased .....	1	.....	82.9	10.5	.....	.8	3.0	2.8	285
Crabs, as purchased:									
Minimum .....	2	.....	78.9	15.6	.....	.8	.7	1.8	340
Maximum .....	2	.....	81.0	16.0	.....	2.3	.8	2.1	410
Average .....	2	.....	80.0	15.8	.....	1.5	.7	2.0	370
Lobster, as purchased:									
Minimum .....	2	.....	76.2	16.7	.....	.5	.5	2.1	345
Maximum .....	2	.....	79.4	19.5	.....	1.7	.6	2.8	445
Average .....	2	.....	77.8	18.1	.....	1.1	.5	2.5	390
Oysters, as purchased:									
Minimum .....	4	.....	78.1	7.0	.....	2.0	2.6	1.2	280
Maximum .....	4	.....	86.0	13.0	.....	3.4	5.2	1.9	310
Average .....	4	.....	83.4	8.8	.....	2.4	3.9	1.5	335
Shrimp, as purchased .....	1	.....	70.8	25.4	.....	1.0	.2	2.6	520
EGGS.									
Hens', uncooked: <i>a</i>									
Edible portion—									
Minimum .....	60	.....	67.2	11.6	11.4	8.6	.....	.6	660
Maximum .....	60	.....	75.8	16.0	17.4	15.1	.....	1.6	910
Average .....	60	.....	73.7	13.4	14.8	10.5	.....	1.0	720
As purchased .....	.....	611.2	65.5	11.9	13.1	9.3	.....	.9	635
Hens', boiled:									
Edible portion—									
Minimum .....	19	.....	68.6	10.0	10.3	9.1	.....	.6	575
Maximum .....	19	.....	79.9	15.6	16.8	14.7	.....	1.1	880
Average .....	19	.....	73.2	13.2	14.0	12.0	.....	.8	765
As purchased .....	.....	611.2	65.0	11.7	12.4	10.7	.....	.7	680

*a* Eggs are difficult of analysis and the discrepancy between the protein by factor and by difference may be due in part to incomplete determination of nitrogen and fat. It is also probable that the factor 6.25 is not correct for eggs. The value of protein by difference is perhaps the more nearly correct and has been used in the computation of the fuel value per pound.

*b* Average percentage refuse (shell) in 34 samples.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbohydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By difference.				
ANIMAL FOOD—Continued.									
EGGS—continued.									
Hens, boiled whites:									
Edible portion— <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	11	.....	83.1	11.6	12.3	.....	.....	0.4	235
Maximum .....	11	.....	87.1	14.8	15.4	0.3	.....	1.0	295
Average .....	11	.....	86.2	12.8	13.0	.2	.....	.6	250
Hens', boiled yolks:									
Edible portion— <i>b</i>									
Minimum .....	11	.....	48.4	15.3	15.5	32.2	.....	1.0	1,685
Maximum .....	11	.....	50.2	16.8	18.0	34.4	.....	1.4	1,745
Average .....	11	.....	49.5	15.7	16.1	33.3	.....	1.1	1,705
DAIRY PRODUCTS, ETC.									
Butter, as purchased <i>c</i> .....	.....	.....	11.0	1.0	.....	85.0	.....	3.0	3,605
Buttermilk, as purchased .....	.....	.....	91.0	3.0	.....	.5	4.8	.7	165
Cheese, American, pale, as purchased <i>d</i> .....	1	.....	81.6	28.8	.....	35.9	e.3	3.4	2,055
Cheese, American, red, as purchased <i>f</i> .....	1	.....	28.6	.....	29.6	38.3	.....	3.5	2,165
Cheese, Boudon, as purchased <i>g</i> .....	1	.....	55.2	15.4	.....	20.8	h1.6	7.0	1,195
Cheese, California flat, as purchased .....	4	.....	34.0	24.3	.....	33.4	4.5	3.8	1,945
Cheese, Cheddar, as purchased <i>i</i> .....	6	.....	27.4	27.7	.....	36.8	4.1	4.0	2,145
Cheese, Cheshire, as purchased <i>j</i> .....	1	.....	37.1	26.9	.....	30.7	e.0	4.4	1,810
Cheese, cottage, as purchased:									
Minimum .....	2	.....	67.0	16.1	.....	.4	3.7	1.6	435
Maximum .....	2	.....	77.0	25.7	.....	1.6	4.9	2.0	585
Average .....	2	.....	72.0	20.9	.....	1.0	4.3	1.8	510
Cheese, Crown brand cream, as purchased <i>k</i> .....	1	.....	31.4	5.2	.....	58.0	2.2	3.2	2,585
Cheese, Dutch, as purchased:									
Minimum .....	2	.....	27.6	.....	29.6	16.3	.....	8.7	1,240
Maximum .....	2	.....	42.7	.....	44.7	19.0	.....	11.4	1,630
Average .....	2	.....	35.2	.....	37.1	17.7	.....	10.0	1,435
Cheese, Fromage de Brie, as purchased <i>l</i> .....	1	.....	60.2	15.9	.....	21.0	1.4	1.5	1,216
Cheese, full cream, as purchased: <i>m</i>									
Minimum .....	25	.....	27.0	17.9	.....	24.5	1.2	2.5	1,790
Maximum .....	25	.....	44.1	37.0	.....	44.6	4.0	4.9	2,430
Average .....	25	.....	34.2	25.9	.....	33.7	2.4	3.8	1,950
Cheese, imitation full cream, Ohio, as purchased .....	1	.....	37.9	.....	25.9	31.7	.....	4.5	1,820
Cheese, imitation old English, as purchased <i>n</i> .....	1	.....	20.7	30.1	.....	42.7	1.3	5.2	2,385
Cheese, Limburger, as purchased <i>o</i> .....	1	.....	42.1	23.0	.....	29.4	.4	5.1	1,675
Cheese, Neuchatel, as purchased: <i>p</i>									
Minimum .....	2	.....	42.7	15.1	.....	22.3	.2	2.3	1,275
Maximum .....	2	.....	57.2	22.3	.....	32.5	2.9	2.5	1,790
Average .....	2	.....	50.0	18.7	.....	27.4	1.5	2.4	1,530

*a* The ash of the whites of 73 eggs contained 3.3 per cent phosphoric anhydrid.

*b* The ash of the yolks of 73 eggs contained 57.2 per cent phosphoric anhydrid.

*c* The averages given for butter, buttermilk, cream, skimmed milk, and whole milk are assumed from the most reliable data available, but are not averages of all analyses.

*d* Contained 0.82 per cent common salt.

*e* Lactic acid.

*f* Contained 0.72 per cent common salt.

*g* Contained 3.16 per cent common salt.

*h* Milk sugar 0.7 per cent; lactic acid 0.9 per cent.

*i* One sample contained 0.45 per cent lactic acid and 1.43 per cent common salt.

*j* Contained 1.69 per cent common salt.

*k* Contained 2.72 per cent common salt.

*l* Contained 0.40 per cent common salt.

*m* Four cheeses were analyzed when 1, 3, and 5 weeks old. The average composition is as follows: When 7 days old, water 35.4, protein 21.6, fat 35.8, carbohydrates 3.9, and ash 3.3 per cent; when 21 days old, water 34.7, protein 22.7, fat 36.6, carbohydrates 2.1, and ash 3.9 per cent; when 35 days old, water 34.9, protein 23.3, fat 36.7, carbohydrates 0.7, and ash 4.4 per cent. The average of 20 analyses in which protein and carbohydrates were determined by difference gives: Water 28.3, protein and carbohydrates 38, fat 32.7, and ash 4 per cent. The average of 78 analyses in which the carbohydrates and ash were determined by difference gives: Water 24.9, protein 38, fat 32.7, carbohydrates and ash 4.4 per cent. The average of 148 analyses of green cheese in which the carbohydrates and ash were determined by difference gives: Water 33, protein 28.6, fat 33.7, carbohydrates and ash 4.7 per cent.

*n* Contained 1.47 per cent common salt.

*o* Contained 3.51 per cent common salt.

*p* The average of 10 analyses in which protein and sugar were not determined gives: Water 53.6, protein and sugar (by difference) 18.9, fat 27.7, lactic acid 1.2, and ash 2.6 per cent (including 1.4 per cent common salt).



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
ANIMAL FOOD—Continued.									
DAIRY PRODUCTS, ETC.—continued.									
Cheese, partly skimmed milk, as purchased: <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Oals.</i>
Minimum	3		34.8	23.5		23.7	2.3	3.2	1,580
Maximum	3		42.0	27.6		34.5	4.9	3.4	1,970
Average	3		38.2	25.4		29.5	3.6	3.3	1,785
Cheese, pineapple, as purchased: <i>b</i>									
Minimum	5		11.6	27.0		33.3	2.2	5.1	1,965
Maximum	5		31.0	34.5		45.2	3.1	6.2	2,600
Average	5		23.0	29.9		38.9	2.6	5.6	2,245
Cheese, Roquefort, as purchased: <i>c</i>	1		39.3	22.6		29.5	1.8	6.8	1,700
Cheese, skimmed milk, as purchased: <i>d</i>									
Minimum	9		37.3	26.3		6.8		2.4	1,090
Maximum	9		53.1	38.4		27.8	9.0	5.1	1,740
Average	9		45.7	31.5		16.4	2.2	4.2	1,320
Cheese, Swiss, as purchased: <i>e</i>									
Minimum	2		28.9	26.1		33.2	.9	4.4	1,920
Maximum	2		33.8	29.1		36.7	1.7	5.2	2,105
Average	2		31.4	27.6		34.9	1.3	4.8	2,010
Cheese, whole milk. (See Full cream cheese.)									
Cream, as purchased: <i>f</i>			74.0	2.5		18.5	4.5	.5	910
Koumiss, as purchased: <i>g</i>									
Minimum	8		88.8	2.6		1.7	5.1	.4	215
Maximum	8		90.0	3.0		2.4	5.9	.4	265
Average	8		89.3	2.8		2.1	5.4	.4	240
Milk, condensed, sweetened, as purchased: <i>h</i>									
Minimum	24		21.6	6.0		.4	44.4	1.5	1,270
Maximum	24		37.3	10.5		10.6	56.9	2.1	1,650
Average	24		26.9	8.8		8.3	54.1	1.9	1,520
Milk, condensed, nnsweetened, "evaporated cream," as purchased:									
Minimum	6		66.3	8.6		7.8	10.4	1.5	740
Maximum	6		69.6	10.5		10.4	12.2	2.1	835
Average	6		68.2	9.6		9.3	11.2	1.7	780
Milk, skimmed, as purchased: <i>f</i>			90.5	3.4		.3	5.1	.7	170
Milk, whole, as purchased: <i>f</i>			87.0	3.3		4.0	5.0	.7	325
Whey, as purchased			93.0	1.0		.3	5.0	.7	125
MISCELLANEOUS.									
Gelatin, as purchased:									
Minimum	6		9.6	89.3	82.2			1.4	1,660
Maximum	6		15.4	97.5	88.3	.4		4.4	1,830
Average	6		13.6	91.4	84.2	.1		2.1	1,705
Calf's-foot jelly, as purchased	1		77.6	4.3			17.4	.7	405
Isinglass, sturgeon, as purchased	1		19.0	89.3	77.4	1.6		2.0	1,730
Spinal column, sturgeon, as purchased	1		17.7	59.8		17.1	.8	4.6	1,850
Lard, refined, as purchased	1					100.0			4,220
Lard, unrefined, as purchased:									
Minimum	3		3.1	1.7	.9	92.0		.1	3,895
Maximum	3		6.6	2.9	1.3	95.9		.1	4,065
Average	3		4.8	2.2	1.1	94.0		.1	4,010
Tallow, refined, as purchased	1					100.0			4,220
Cottolene, as purchased	1					100.0			4,220
Oleomargarine, as purchased	41		9.5	1.2		83.0		6.3	3,525
Beef juice, as purchased	1		93.0	4.9		.6		1.5	115

*a* Three cheeses were analyzed when 1, 3, and 5 weeks old. The average composition is as follows: When 1 week old, water 38.4, protein 25, fat 30, carbohydrates 3.3, and ash 3.3 per cent; when 3 weeks old, water 38.4, protein 25.3, fat 29, carbohydrates 4, and ash 3.3 per cent; when 5 weeks old, water 37.7, protein 26, fat 29.7, carbohydrates 3.2, and ash 3.4 per cent.

*b* Four samples contained an average of 2.13 per cent common salt.

*c* Contained 5.3 per cent common salt.

*d* Two samples contained an average of 1.5 per cent common salt.

*e* Contained 1.9 per cent common salt.

*f* The averages given for butter, buttermilk, cream, skim milk, and whole milk are assumed from the most reliable data available, but are not averages of all analyses.

*g* Contained, on the average, 4.4 per cent cane sugar and 0.76 per cent alcohol. Ash not reported, but assumed from European analyses.

*h* Sixteen samples contained, on the average, 43.6 per cent cane sugar.

*i* According to Farrington and Woll the ash of cows' milk contains, on the average, K<sub>2</sub>O 25.6, Na<sub>2</sub>O 12.5, CaO 24.6, P<sub>2</sub>O<sub>5</sub> 21.2, and Cl 16.3 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohy- drates (includ- ing fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD.									
FLOURS, MEALS, ETC.									
		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Barley, granulated .....	1	.....	10.9	7.5	0.9	79.8	0.7	0.9	1,660
Barley meal and flour:									
Minimum .....	3	.....	9.9	9.0	1.5	70.4	5.9	1.6	1,535
Maximum .....	3	.....	13.6	12.7	3.2	74.5	7.0	3.8	1,680
Average .....	3	.....	11.9	10.5	2.2	72.8	( <sup>3</sup> )6.5	2.6	1,640
Barley, pearled:									
Minimum .....	3	.....	9.8	7.0	.7	77.3	.....	.6	1,635
Maximum .....	3	.....	12.9	10.1	1.5	78.1	.....	1.6	1,675
Average .....	3	.....	11.5	8.5	1.1	77.8	( <sup>1</sup> )3	1.1	1,650
Buckwheat flour:									
Minimum .....	17	.....	11.2	2.9	.5	71.6	.2	.5	1,560
Maximum .....	17	.....	17.6	10.4	2.3	81.5	.7	1.8	1,650
Average .....	17	.....	13.6	6.4	1.2	77.9	( <sup>5</sup> )4	.9	1,620
Buckwheat preparations:									
Farina and groats—									
Minimum .....	2	.....	10.6	3.3	.3	83.4	.1	.4	1,650
Maximum .....	2	.....	11.2	4.8	.6	84.8	.3	.6	1,665
Average .....	2	.....	10.9	4.1	.4	84.1	.2	.6	1,660
Self-raising—									
Minimum .....	14	.....	9.8	5.5	.3	70.1	.....	4.4	1,515
Maximum .....	14	.....	13.6	11.1	1.4	77.3	.....	7.0	1,600
Average .....	14	.....	11.6	8.2	1.2	73.4	( <sup>1</sup> )4	5.6	1,570
Corn flour: <i>a</i>									
Minimum .....	3	.....	12.0	5.9	1.0	76.9	.6	.5	1,630
Maximum .....	3	.....	13.0	8.5	1.8	79.6	1.2	.8	1,665
Average .....	3	.....	12.6	7.1	1.3	78.4	.9	.6	1,645
Corn meal, granular: <i>b</i>									
Minimum .....	19	.....	8.8	6.7	1.0	68.4	.....	.5	1,550
Maximum .....	19	.....	17.9	11.6	5.3	80.6	.....	1.9	1,720
Average .....	19	.....	12.5	9.2	1.9	75.4	( <sup>1</sup> )1.0	1.0	1,655
Corn meal, unbolted:									
Edible portion—									
Minimum .....	7	.....	10.9	7.8	4.5	71.9	.....	1.2	1,720
Maximum .....	7	.....	12.4	9.3	5.2	75.4	.....	1.4	1,740
Average .....	7	.....	11.6	8.4	4.7	74.0	.....	1.3	1,730
As purchased—									
Minimum .....	7	.....	14.2	9.2	6.5	55.7	.....	1.0	1,305
Maximum .....	7	.....	24.1	10.8	8.0	72.2	.....	1.3	1,670
Average .....	7	.....	19.9	10.8	7.5	65.9	.....	1.2	1,545
Pop corn:									
Minimum .....	2	.....	4.1	10.3	4.7	78.6	1.3	1.3	1,870
Maximum .....	2	.....	4.4	11.1	5.4	78.7	1.4	1.4	1,880
Average .....	2	.....	4.3	10.7	5.0	78.7	1.4	1.3	1,875
Corn preparations.									
Ceroaline <i>d</i> —									
Minimum .....	5	.....	9.5	9.1	.9	76.6	.2	.2	1,635
Maximum .....	5	.....	11.0	9.9	1.3	79.2	.7	2.3	1,710
Average .....	5	.....	10.3	9.6	1.1	78.3	( <sup>4</sup> )4	.7	1,650
Hominy—									
Minimum .....	17	.....	9.2	6.3	.2	77.3	.2	.1	1,610
Maximum .....	17	.....	13.4	9.5	1.0	81.4	1.0	.7	1,700
Average .....	17	.....	11.8	8.3	.6	79.0	( <sup>12</sup> )9	.3	1,650
Hominy, cooked	1	.....	79.3	2.2	.2	17.8	.....	.5	380
Parched—									
Minimum .....	2	.....	4.9	11.1	8.2	71.1	.....	1.7	1,895
Maximum .....	2	.....	5.6	11.8	8.7	73.4	.....	3.5	1,930
Average .....	2	.....	5.2	11.5	8.4	72.3	.....	2.6	1,915
Kafir corn .....	1	.....	16.8	6.6	3.8	70.6	1.1	2.2	1,595
Oatmeal: <i>e</i>									
Minimum .....	16	.....	2.0	12.9	6.0	63.8	.6	1.5	1,810
Maximum .....	16	.....	8.8	20.8	8.8	70.2	1.2	2.2	1,875
Average .....	16	.....	7.3	16.1	7.2	67.5	( <sup>8</sup> )9	1.9	1,860
Oatmeal, boiled .....	1	.....	84.5	2.8	.5	11.5	.....	.7	285

*a* Average of 77 analyses of corn meal used for fodder gives water 15, protein 8.2, fat 3.8, carbohydrates 68.7, fiber 1.9, and ash 1.4 per cent, and fuel value 1,610 calories.

*b* The ash of 1 sample contained 0.185 per cent phosphorus.

*c* Refuse, bran removed by sifting.

*d* The ash of 1 sample contained 0.192 per cent phosphorus.

*e* The ash of 1 sample contained 0.414 per cent phosphorus.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Oatmeal gruel:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	—	87.5	0.9	0.2	2.9	—	0.3	80
Maximum	2	—	95.7	1.6	.5	9.6	—	.8	230
Average	2	—	91.6	1.2	.4	6.3	—	.5	155
Oatmeal water:									
Minimum	2	—	94.0	.4	.1	1.3	—	.1	35
Maximum	2	—	98.1	.9	.1	4.5	—	.5	105
Average	2	—	96.0	.7	.1	2.9	—	.3	70
Oats, other preparations: <i>a</i>									
Rolled oats—									
Minimum	20	—	5.5	13.6	5.6	62.8	1.2	1.6	1,755
Maximum	20	—	11.2	19.1	8.8	70.8	1.4	4.7	1,885
Average	20	—	7.7	16.7	7.3	66.2	(2) 1.3	2.1	1,850
Miscellaneous—									
Minimum	26	—	6.4	13.7	6.1	63.9	.6	1.3	1,830
Maximum	26	—	9.2	18.4	8.2	70.5	1.7	1.9	1,890
Average	26	—	7.9	16.3	7.3	66.8	(20) .9	1.7	1,855
All analyses, average <i>b</i>	46	—	7.8	16.5	7.3	66.5	(22) 1.0	1.9	1,850
Rice:									
Minimum	21	—	9.1	5.9	.1	75.4	.1	.2	1,600
Maximum	21	—	14.0	11.3	.7	81.9	.4	.5	1,690
Average	21	—	12.3	8.0	.3	79.0	(13) .2	.4	1,630
Rice, boiled:									
Minimum	3	—	52.7	1.6	—	15.5	—	.1	330
Maximum	3	—	82.7	5.0	.1	41.9	—	.3	875
Average	3	—	72.5	2.8	.1	24.4	—	.2	510
Rice, flaked:									
Minimum	2	—	9.4	7.5	.3	81.4	.1	.3	1,680
Maximum	2	—	9.7	8.3	.5	82.2	.2	.4	1,690
Average	2	—	9.5	7.9	.4	81.9	.2	.3	1,685
Rice flour: <i>c</i>									
Minimum	4	—	3.7	4.7	1.7	58.3	9.1	6.6	1,635
Maximum	4	—	10.9	12.0	10.4	79.2	28.3	10.7	1,765
Average	4	—	8.5	8.6	6.1	68.0	16.1	8.8	1,680
Rye flour:									
Minimum	8	—	11.9	4.9	.2	77.6	.4	.6	1,615
Maximum	8	—	13.6	8.8	1.3	80.2	.5	.9	1,650
Average	8	—	12.9	6.8	.9	78.7	(4) .4	.7	1,630
Rye meal	1	—	11.4	13.6	2.0	71.5	1.8	1.5	1,665
Wheat flour, California fine: <i>d</i>									
Minimum	3	—	12.4	7.2	1.2	73.9	—	.4	1,590
Maximum	3	—	15.6	8.8	1.6	77.8	—	.5	1,660
Average	3	—	13.8	7.9	1.4	76.4	—	.5	1,625
Wheat flour, entire wheat:									
Minimum	9	—	6.4	12.2	1.5	69.5	.5	.6	1,635
Maximum	9	—	13.1	14.6	2.1	77.0	1.2	1.5	1,760
Average	9	—	11.4	13.8	1.9	71.9	(3) .9	1.0	1,675
Wheat flour, gluten:									
Minimum	5	—	10.5	12.8	1.1	69.6	—	.5	1,035
Maximum	5	—	13.0	15.0	2.4	72.8	.6	1.3	1,690
Average	5	—	12.0	14.2	1.8	71.1	(1) .6	.9	1,665
Wheat flour, Graham:									
Minimum	13	—	9.9	8.5	1.5	66.0	1.8	1.0	1,615
Maximum	13	—	13.7	17.7	3.6	75.8	2.0	2.7	1,710
Average	13	—	11.3	13.3	2.2	71.4	(3) 1.9	1.8	1,670
Wheat flour, prepared (self-raising): <i>e</i>									
Minimum	29	—	8.0	8.0	.6	67.4	.4	1.5	1,550
Maximum	29	—	13.0	13.2	2.2	78.6	.5	7.1	1,730
Average	29	—	10.8	10.2	1.2	73.0	(3) .4	4.8	1,600

*a* The preparations analyzed include a considerable number of brands, each of which varies in composition only slightly from the average.

*b* The ash of 5 samples contained an average of 0.418 per cent phosphorus.

*c* Rice flour is used mainly as a fodder, and varies considerably in composition. The ash of 2 samples contained an average of  $P_2O_5$  29.1,  $K_2O$  12.6,  $CaO$  1,  $MgO$  7.6, and  $SO_3$  0.3 per cent. Two samples contained an average of protein ( $N \times 6.25$ ) 11.8, and proteids 11.6 per cent.

*d* The ash of 3 complete samples contained an average of 49.3 per cent  $P_2O_5$ .

*e* The flours analyzed included 18 varieties or brands. The variation between different samples of the same brand is as wide as that between the averages of the different brands. The widest variation is in the ash, which of course depends upon the mineral matters added for raising.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Wheat flour, patent roller process, bakers' grade:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	14	-----	10.1	10.3	0.9	70.3	0.3	0.5	1,640
Maximum .....	14	-----	13.3	14.9	2.0	75.5	1.5	.9	1,705
Average .....	14	-----	11.9	13.3	1.5	72.7	(6) .7	.6	1,665
Wheat flour, patent roller process, family and straight grade:									
Spring wheat—									
Minimum .....	3	-----	10.3	9.6	1.0	72.7	-----	.4	1,635
Maximum .....	3	-----	13.1	13.3	1.2	78.5	-----	.6	1,680
Average .....	3	-----	11.9	10.9	1.1	75.6	(1) .1	.5	1,655
Winter wheat— <i>a</i>									
Minimum .....	6	-----	11.7	10.8	1.0	72.1	.2	.3	1,615
Maximum .....	6	-----	14.0	13.7	1.3	73.7	.4	.6	1,655
Average .....	6	-----	13.1	12.3	1.1	73.0	(4) .3	.5	1,635
Undesignated—									
Minimum .....	19	-----	9.4	9.3	.8	72.8	-----	.3	1,610
Maximum .....	19	-----	14.1	12.6	1.6	77.9	-----	.6	1,705
Average .....	19	-----	12.9	10.4	1.0	75.2	(1) .1	.6	1,635
All analyses, average .....	28	-----	12.8	10.8	1.1	74.8	(6) .2	.5	1,640
Wheat flour, patent roller process, grade not indicated:									
Minimum .....	111	-----	8.2	8.4	.3	70.3	.1	.3	1,640
Maximum .....	111	-----	13.9	14.7	1.6	80.0	.3	.8	1,730
Average .....	111	-----	11.5	11.4	1.0	75.6	(15) .2	.5	1,660
Wheat flour, patent roller process, high grade:									
Spring wheat—									
Minimum .....	23	-----	8.8	8.7	.7	71.7	.1	.3	1,615
Maximum .....	23	-----	14.3	13.8	1.9	78.1	.3	.5	1,715
Average .....	23	-----	12.3	11.7	1.1	74.5	(7) .1	.4	1,650
Winter wheat— <i>b</i>									
Minimum .....	6	-----	12.1	9.3	.8	71.6	.2	.3	1,615
Maximum .....	6	-----	14.0	14.9	1.0	75.5	.4	.6	1,645
Average .....	6	-----	13.3	11.0	.9	74.4	.3	.4	1,625
Undesignated—									
Minimum .....	28	-----	9.6	8.2	.7	72.4	-----	.3	1,615
Maximum .....	28	-----	13.8	14.5	1.9	77.5	-----	.6	1,700
Average .....	28	-----	12.5	10.8	1.0	75.2	(1) .1	.5	1,640
All analyses, average .....	57	-----	12.4	11.2	1.0	74.9	(14) .2	.5	1,645
Average of all analyses of high and medium grades and grade not indicated...	210	-----	12.0	11.4	1.0	75.1	(41) .3	.5	1,650
Wheat flour, patent roller process, low grade: <i>c</i>									
Minimum .....	13	-----	9.3	10.0	.8	64.2	.5	.5	1,645
Maximum .....	13	-----	13.9	17.9	3.9	75.9	.9	2.0	1,735
Average .....	13	-----	12.0	14.0	1.9	71.2	(7) .3	.9	1,665
Wheat flour, unclassified process, grade not indicated:									
Spring wheat— <i>d</i>									
Minimum .....	4	-----	11.4	9.6	.6	73.5	.4	.5	1,610
Maximum .....	4	-----	13.5	12.1	1.3	77.4	.8	.9	1,650
Average .....	4	-----	12.4	10.5	1.0	75.4	(3) .5	.7	1,640
Winter wheat— <i>e</i>									
Minimum .....	21	-----	9.9	8.5	.4	73.2	.2	.3	1,605
Maximum .....	21	-----	14.4	12.5	1.5	78.2	.5	1.8	1,680
Average .....	21	-----	11.9	10.7	1.0	75.8	(5) .4	.6	1,650
Undesignated— <i>f</i>									
Minimum .....	8	-----	6.7	8.7	.6	75.3	.3	.4	1,645
Maximum .....	8	-----	11.7	11.4	1.6	82.1	1.8	.9	1,760
Average .....	8	-----	9.4	10.4	1.2	78.4	(3) .9	.6	1,700
All analyses, average .....	33	-----	11.4	10.6	1.1	76.3	(10) .3	.6	1,665

*a* The ash of 1 sample contained K<sub>2</sub>O 36.3, CaO 5.7, MgO 6.4, and P<sub>2</sub>O<sub>5</sub> 49.3 per cent. In 1 sample protein (N × 6.25) 11.4 and proteids 10.8 per cent.

*b* The ash of 1 sample contained K<sub>2</sub>O 38.5, CaO 5.6, MgO 4.4, P<sub>2</sub>O<sub>5</sub> 48.1, and SO<sub>3</sub> 0.2 per cent. In 1 sample protein (N × 6.25) 10.6 and proteids 10.3 per cent.

*c* The ash of 1 sample contained K<sub>2</sub>O 32.3, CaO 4.5, MgO 9.3, and P<sub>2</sub>O<sub>5</sub> 53.1 per cent. In 1 sample protein (N × 6.25) 14.1 and proteids 13.8 per cent.

*d* Three samples contained an average of starch 70.8, dextrin 1.5, and sugar, etc., 1.8 per cent.

*e* Four samples contained an average of starch 71.9, dextrin 2.3, and sugar, etc., 1.6 per cent.

*f* Three samples contained an average of starch 71.8, dextrin 2, and sugar, etc., 1.7 per cent.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FLOURS, MEALS, ETC.—continued.									
Wheat preparations, breakfast foods: <i>a</i>									
Cracked and crushed— <i>b</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	11		8.9	9.5	1.3	73.7	1.2	1.4	1,645
Maximum	11		11.7	12.9	2.2	77.2	2.0	2.2	1,710
Average	11		10.1	11.1	1.7	75.5	(7)1.7	1.6	1,685
Farina— <i>c</i>									
Minimum	9		6.1	10.4	.8	74.6	.2	.1	1,630
Maximum	9		13.2	11.7	3.8	78.5	.6	.7	1,825
Average	9		10.9	11.0	1.4	76.3	(7).4	.4	1,685
Flaked— <i>d</i>									
Minimum	7		7.9	9.7	1.1	69.7	1.3	1.2	1,640
Maximum	7		10.1	15.6	1.5	77.8	2.2	3.3	1,705
Average	7		8.7	13.4	1.4	74.3	1.8	2.2	1,690
Germs— <i>d</i>									
Minimum	10		9.1	8.6	1.2	73.1	.3	.5	1,665
Maximum	10		12.3	13.4	2.5	80.0	1.2	1.6	1,720
Average	10		10.4	10.5	2.0	76.0	(8).9	1.1	1,695
Glutens— <i>e</i>									
Minimum	3		6.8	12.7	.7	69.2	.5	.7	1,695
Maximum	3		11.1	14.4	3.3	78.8	2.5	2.0	1,730
Average	3		8.9	13.6	1.7	74.6	1.3	1.2	1,715
Miscellaneous— <i>f</i>									
Minimum	22		3.8	10.4	1.3	70.5	.5	.9	1,665
Maximum	22		11.9	16.6	4.0	81.0	1.6	1.8	1,820
Average	22		9.4	13.1	2.1	74.1	(16).9	1.3	1,710
Parched and toasted— <i>g</i>									
Minimum	6		6.4	11.8	.9	72.3	.1	.2	1,660
Maximum	6		11.5	15.5	3.7	76.9	1.4	1.6	1,800
Average	6		8.6	13.6	2.4	74.5	.8	.9	1,740
Shredded—									
Minimum	6		7.2	9.6	1.3	75.0	.....	1.4	1,670
Maximum	6		10.7	11.4	1.6	79.7	.....	3.3	1,720
Average	6		8.1	10.5	1.4	77.9	(3)1.7	2.1	1,700
All analyses, average	74		9.6	12.1	1.8	75.2	1.0	1.3	1,700
Wheat preparations:									
Macaroni—									
Minimum	11		7.0	7.9	.0	67.2	.....	.3	1,540
Maximum	11		12.3	16.6	4.9	78.4	.....	7.0	1,775
Average	11		10.3	13.4	.9	74.1	.....	1.3	1,665
Macaroni, cooked	1		78.4	3.0	1.5	15.8	.....	1.3	415
Noodles—									
Minimum	2		10.6	11.7	.5	74.7	.3	.5	1,665
Maximum	2		10.7	11.7	1.5	76.6	.4	1.5	1,670
Average	2		10.7	11.7	1.0	75.6	.4	1.0	1,665
Spaghetti—									
Minimum	3		10.0	11.2	.1	74.9	.5	.6	1,645
Maximum	3		11.1	13.3	.8	77.1	.7	.7	1,680
Average	3		10.6	12.1	.4	76.3	(4).4	.6	1,660
Vermicelli—									
Minimum	15		9.4	7.9	.3	66.7	.....	.5	1,540
Maximum	15		12.3	16.4	5.2	76.5	.....	6.8	1,730
Average	15		11.0	10.9	2.0	72.0	.....	4.1	1,625
BREAD, CRACKERS, PASTRY, ETC.									
Bread, brown, as purchased:									
Minimum	2		40.0	5.0	1.2	43.6	.....	1.9	970
Maximum	2		47.2	5.8	2.4	50.7	.....	2.2	1,135
Average	2		43.6	5.4	1.8	47.1	.....	2.1	1,050
Bread, cassava, as purchased	1		10.5	9.1	.3	79.0	.....	1.1	1,650

*a* The different groups of wheat breakfast foods contain various brands, which have been arranged as far as possible according to similarity in method of preparation. The varieties under each group differ only slightly from the average in percentage composition.

*b* The ash of 2 samples contained an average of 0.282 per cent of phosphorus.

*c* The ash of 1 sample contained 0.153 per cent of phosphorus.

*d* The ash of 2 samples contained an average of 0.247 per cent of phosphorus.

*e* The ash of 1 sample contained 0.251 per cent of phosphorus.

*f* The ash of 4 samples contained an average of 0.35 per cent of phosphorus.

*g* The ash of 1 sample contained 0.288 per cent of phosphorus.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Bread, corn (johnnycake), as purchased: <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	5	28.4	6.5	2.3	40.3	0.8			975
Maximum	5	48.0	10.1	9.8	54.3	4.1			1,330
Average	5	38.9	7.9	4.7	46.8	2.2			1,205
Bread, rye, as purchased:									
Minimum	21	20.6	6.4	.1	45.6	.1	.6		1,020
Maximum	21	44.0	11.1	1.4	65.8	1.0	2.7		1,440
Average	21	35.7	9.0	.6	53.2	( <sup>9</sup> ) .5	1.5		1,180
Bread, rye, black, as purchased	1	36.9	9.6	.6	48.9		4.0		1,115
Bread, rye, whole, as purchased:									
Minimum	2	49.8	11.8	.5	35.0	.8	.9		895
Maximum	2	51.6	12.0	.6	36.8	1.6	1.0		930
Average	2	50.7	11.9	.6	35.9	1.2	.9		915
Bread, rye and wheat, as purchased	1	35.3	11.9	.3	51.5		1.0		1,190
Bread, wheat:									
Buns, as purchased	1	29.0	6.3	6.5	57.3	.4	.9		1,455
Buns, cinnamon, as purchased	1	23.6	9.4	7.2	59.1		.7		1,575
Buns, currant, as purchased	1	27.5	6.7	7.6	57.6	1.1	.6		1,515
Buns, hot cross, as purchased	1	36.7	7.9	4.8	49.7		.9		1,275
Buns, sugar, as purchased: <i>b</i>									
Minimum	3	26.6	7.6	4.5	49.0		.8		1,340
Maximum	3	35.3	8.4	9.4	58.5		1.6		1,575
Average	8	29.6	8.1	6.9	54.2	( <sup>1</sup> ) .3	1.2		1,450
Gluten bread, as purchased—									
Minimum	6	34.8	8.2	.7	44.6		.8		1,085
Maximum	6	43.1	11.1	2.4	53.0		2.2		1,210
Average	6	38.2	9.8	1.4	49.8		1.3		1,160
Graham bread, as purchased— <i>c</i>									
Minimum	27	27.8	6.8	.4	38.6	.6	.7		880
Maximum	27	42.4	10.9	3.8	59.1	1.8	3.0		1,350
Average	27	35.7	8.9	1.8	52.1	( <sup>11</sup> ) 1.1	1.5		1,210
Biscuit, homemade, as purchased— <i>d</i>									
Minimum	3	30.7	7.8	2.0	53.7	.4	.1		1,280
Maximum	3	34.7	10.2	3.3	56.6	.9	.9		1,325
Average	3	32.9	8.7	2.6	55.3	( <sup>2</sup> ) .7	.5		1,300
Biscuit, Maryland, as purchased— <i>e</i>									
Minimum	2	24.2	7.5	4.3	59.3	.6	1.2		1,490
Maximum	2	25.0	9.3	6.8	61.0	2.1	1.4		1,530
Average	2	24.6	8.4	5.6	60.1	1.8	1.8		1,510
Biscuit, soda, as purchased	1	22.9	9.3	13.7	52.6		1.5		1,730
Rolls, French, as purchased— <i>f</i>									
Minimum	2	31.9	8.0	2.3	55.2	.3	1.2		1,290
Maximum	2	32.2	9.0	2.7	56.2	.9	1.3		1,310
Average	2	32.0	8.5	2.5	55.7	.6	1.3		1,300
Rolls, plain, as purchased—									
Minimum	5	18.4	8.6	.4	56.7	.3	.7		1,340
Maximum	5	28.4	11.9	9.4	64.7	.3	1.4		1,635
Average	5	25.2	9.7	4.2	59.9	( <sup>2</sup> ) .3	1.0		1,470
Rolls, Vienna, as purchased	1	31.7	8.5	2.2	56.5	.4	1.1		1,300
Rolls, water, as purchased—									
Minimum	2	31.2	8.5	2.0	52.5		1.1		1,300
Maximum	2	34.0	9.6	3.9	55.8		1.4		1,300
Average	2	32.6	9.0	3.0	54.2		1.2		1,300
Rolls, all analyses, as purchased	20	29.2	8.9	4.1	56.7	( <sup>12</sup> ) .6	1.1		1,395
Rolls, large cheap, as purchased	1	29.4	9.4	.8	59.4		1.0		1,315
Toasted bread, as purchased—									
Minimum	5	15.3	10.6	.6	56.7		1.4		1,340
Maximum	5	28.6	12.8	3.2	67.1		2.0		1,620
Average	6	24.0	11.5	1.6	61.2		1.7		1,420
White bread, biscuit, as purchased—									
Minimum	3	31.2	7.6	.6	50.1	.3	.5		1,110
Maximum	3	39.7	8.3	2.1	58.8	.5	1.4		1,295
Average	3	35.2	8.0	1.4	54.3	( <sup>2</sup> ) .3	1.1		1,220

*a* Corn bread (johnnycake), made of Indian meal mixed with sour milk or buttermilk.

*b* One sample contained sugar 7.9, dextrin 3.2, and starch 47 per cent.

*c* Two samples contained an average of sugar 3.2, dextrin 3.1, and starch 40.8 per cent.

*d* Two samples contained an average of sugar 2.7, dextrin 5.5, and starch 41.5 per cent.

*e* One sample contained sugar 3.9, dextrin 2.8, and starch 52.2 per cent.

*f* One sample contained sugar 2.9, dextrin 2.8, and starch 48.6 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
<b>VEGETABLE FOOD—Continued.</b>									
<b>BREAD, CRACKERS, PASTRY, ETC.—continued.</b>									
Bread, wheat—Continued.		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
White bread, butter, as purchased.....	1	.....	32.2	7.9	1.1	57.7	0.4	1.1	1,205
White bread, cheap grade, as purchased—									
Minimum.....	6	.....	27.0	8.7	.5	44.3	.....	1.0	1,105
Maximum.....	6	.....	40.7	16.3	2.1	60.4	.....	1.3	1,370
Average.....	6	.....	33.2	10.9	1.3	53.6	.....	1.0	1,255
White bread, cream, as purchased—									
Minimum.....	6	.....	29.3	6.5	.2	50.8	.....	.8	1,150
Maximum.....	6	.....	38.2	15.4	1.9	60.9	.2	1.6	1,335
Average.....	6	.....	33.2	9.8	.9	55.0	(1) .2	1.1	1,245
White bread, home-made, as purchased—									
Minimum.....	38	.....	29.8	6.8	.4	47.6	.7	.4	1,115
Maximum.....	38	.....	40.4	11.0	3.5	53.0	.3	2.0	1,360
Average.....	38	.....	35.0	9.1	1.6	53.3	(2) .2	1.0	1,225
White bread, milk, as purchased—									
Minimum.....	8	.....	34.1	8.8	.3	49.0	.....	.9	1,110
Maximum.....	8	.....	39.8	10.8	2.8	53.7	.....	2.0	1,235
Average.....	8	.....	36.5	9.6	1.4	51.1	.....	1.4	1,190
White bread, miscellaneous, as purchased a—									
Minimum.....	103	.....	25.8	7.0	.0	42.0	.3	.6	940
Maximum.....	103	.....	49.1	13.9	3.7	61.5	.9	3.0	1,415
Average.....	103	.....	35.6	9.3	1.2	52.7	(8) .5	1.2	1,205
White bread, New England, as purchased—									
Minimum.....	7	.....	33.1	8.5	.6	48.8	.....	.8	1,095
Maximum.....	7	.....	40.5	9.9	2.1	55.3	.....	1.3	1,245
Average.....	7	.....	36.6	9.1	1.2	52.1	.....	1.0	1,190
White bread, Quaker, as purchased—									
Minimum.....	4	.....	31.1	7.0	.8	49.1	.2	.9	1,230
Maximum.....	4	.....	40.4	9.8	1.8	58.1	.3	1.3	1,305
Average.....	4	.....	35.8	8.3	1.1	53.7	(3) .3	1.1	1,200
White bread, split, as purchased—									
Minimum.....	3	.....	33.2	9.0	.6	52.4	.....	.8	1,200
Maximum.....	3	.....	35.4	9.6	1.5	56.2	.....	1.3	1,245
Average.....	3	.....	34.6	9.3	1.0	54.1	(1) .2	1.0	1,220
White bread, Vienna, as purchased—									
Minimum.....	25	.....	27.1	8.1	.1	48.4	.2	.9	1,110
Maximum.....	25	.....	39.7	11.0	3.8	60.3	.9	1.5	1,380
Average.....	25	.....	34.2	9.4	1.2	54.1	(2) .5	1.1	1,230
White bread, all analyses, as purchased, average b.....	198	.....	35.3	9.2	1.3	53.1	(27) .5	1.1	1,215
Whole wheat bread, as purchased—									
Minimum.....	12	.....	32.3	8.1	.4	37.2	.....	.8	895
Maximum.....	12	.....	51.0	11.7	2.7	56.2	.....	1.9	1,260
Average.....	12	.....	38.4	9.7	.9	49.7	(1) 1.2	1.3	1,140
Zwieback, as purchased—									
Minimum.....	4	.....	5.0	8.6	8.1	72.1	.....	.8	1,915
Maximum.....	4	.....	7.7	11.7	11.3	74.2	.....	1.0	2,015
Average.....	4	.....	5.8	9.8	9.9	73.5	.....	1.0	1,970
Crackers:									
Boston (split) crackers, as purchased—									
Minimum.....	2	.....	6.8	10.7	7.1	68.8	.....	1.4	1,875
Maximum.....	2	.....	8.2	11.3	9.9	73.4	.8	2.4	1,805
Average.....	2	.....	7.5	11.0	8.5	71.1	(1) .8	1.9	1,885

a Four samples contained an average of sugar 2.3, dextrin 4.2, and starch 48.2 per cent.

b Analyses of similar bread made from different grades of flour, from high to low grade:

	Water.	Protein.	Fat.	Carbohydrates.	Fiber.	Ash.	Fuel value per pound.
	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Calories.</i>
White bread from high-grade patent flour.....	32.9	8.7	1.4	56.5	.....	0.5	1,270
White bread from regular patent flour.....	34.1	9.0	1.3	54.9	.....	.7	1,245
White bread from baker's flour.....	30.1	10.6	1.2	48.3	.....	.9	1,145
White bread from low-grade flour.....	40.7	12.6	1.1	44.3	.....	1.3	1,105



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parent bases).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Crackers—Continued.									
Butter crackers, as purchased—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	3		5.2	9.2	8.0	76.3	0.3	0.9	1,840
Maximum .....	3		9.5	11.2	13.6	69.4	.4	2.5	2,250
Average .....	3		7.2	9.6	10.1	71.6	(2) .4	1.5	1,935
Cream crackers, as purchased—									
Minimum .....	9		4.3	8.6	10.7	68.0	.2	1.1	1,945
Maximum .....	9		8.9	11.2	13.8	72.4	1.1	2.6	2,080
Average .....	9		6.8	9.7	12.1	69.7	(5) .6	1.7	1,990
Egg crackers, as purchased—									
Minimum .....	2		5.4	12.4	11.9	63.7	.3	.8	2,100
Maximum .....	2		6.3	12.8	16.0	69.5	.5	1.2	2,025
Average .....	2		5.8	12.6	14.0	66.6	.4	1.0	2,060
Flatbread, as purchased—									
Minimum .....	3		9.4	13.5	.2	72.7	.....	.5	1,660
Maximum .....	3		10.5	15.6	.7	75.3	.....	1.5	1,675
Average .....	3		9.8	14.9	.5	73.6	.....	1.2	1,665
Graham crackers, as purchased—									
Minimum .....	4		3.1	7.4	1.1	69.7	.6	1.2	1,705
Maximum .....	4		8.4	14.4	13.6	77.2	2.4	1.9	2,050
Average .....	4		5.4	10.0	9.4	73.8	(2) 1.5	1.4	1,955
Miscellaneous, as purchased—									
Minimum .....	21		3.1	7.1	.5	63.5	.1	.4	1,840
Maximum .....	21		11.8	14.2	12.8	82.2	.9	3.7	2,010
Average .....	21		7.1	10.2	8.8	72.4	(17) .4	1.5	1,905
Oatmeal crackers, as purchased—									
Minimum .....	2		4.9	10.4	8.5	68.3	.....	1.4	1,870
Maximum .....	2		7.8	13.1	13.7	69.6	.....	2.3	2,065
Average .....	2		6.3	11.8	11.1	69.0	(1) 1.9	1.8	1,970
Oyster crackers, as purchased—									
Minimum .....	7		3.8	9.1	4.8	69.1	.....	.9	1,855
Maximum .....	7		6.5	17.3	13.0	77.5	.....	5.9	2,655
Average .....	7		4.8	11.3	10.5	70.5	(1) .2	2.9	1,965
Pilot bread, as purchased—									
Minimum .....	3		7.9	10.4	.5	70.3	.3	.9	1,665
Maximum .....	3		9.9	12.4	10.2	78.0	.3	1.1	1,930
Average .....	3		8.7	11.1	5.0	74.2	(2) .3	1.0	1,800
Pretzels, as purchased—									
Minimum .....	2		8.1	9.1	3.9	71.1	.4	3.2	1,655
Maximum .....	2		11.0	10.3	3.9	74.5	.5	4.9	1,740
Average .....	2		9.6	9.7	3.9	72.8	(2) .5	4.0	1,700
Saltines, as purchased—									
Minimum .....	2		4.6	9.9	12.7	67.1	.3	2.3	1,995
Maximum .....	2		6.7	11.2	12.8	69.9	.6	2.8	2,025
Average .....	2		5.6	10.6	12.7	68.5	.5	2.6	2,005
Soda crackers, as purchased—									
Minimum .....	5		3.7	8.8	7.7	70.5	.....	1.8	1,850
Maximum .....	5		8.4	10.7	10.0	75.4	.....	2.6	1,980
Average .....	5		5.9	9.8	9.1	73.1	(1) .3	2.1	1,925
Water crackers, as purchased—									
Minimum .....	6		4.7	10.4	.2	72.9	.2	.5	1,730
Maximum .....	6		9.5	12.5	10.1	80.8	.8	2.0	1,910
Average .....	6		6.4	11.7	5.0	75.7	.4	1.2	1,835
All analyses, as purchased, average .....	71		6.8	10.7	8.8	71.9	(45) .5	1.8	1,905
Cracker meal, as purchased—									
Minimum .....	2		9.2	9.6	.6	68.3	.1	.5	1,690
Maximum .....	2		9.3	12.2	11.3	77.4	.3	1.6	1,925
Average .....	2		9.2	10.9	6.0	72.9	.2	1.0	1,810
Cake:									
Baker's cake, as purchased—									
Minimum .....	2		28.3	4.6	3.4	53.3	.....	.7	1,285
Maximum .....	2		34.4	8.0	5.9	60.5	.....	.9	1,460
Average .....	2		31.4	6.3	4.6	56.9	.....	.8	1,370
Chocolate layer cake, as purchased .....	1		20.5	6.2	8.1	64.1	.....	1.1	1,650
Coffee cake, as purchased—									
Minimum .....	5		11.0	4.9	4.7	52.4	.2	.6	1,395
Maximum .....	5		32.0	9.0	10.5	78.8	.6	1.1	1,820
Average .....	5		21.3	7.1	7.5	63.2	(4) .4	.9	1,625
Cup cake, as purchased—									
Minimum .....	2		14.8	5.2	2.5	63.2	.....	.8	1,600
Maximum .....	2		16.3	6.6	15.6	73.8	.....	1.2	1,920
Average .....	2		15.6	5.9	9.0	68.5	(1) .3	1.0	1,765



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Cake—Continued.	1	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	Cals.
Drop cake, as purchased	1	.....	16.6	7.6	14.7	60.3	0.1	0.8	1,885
Frosted cake, as purchased—									
Minimum	7	.....	11.4	5.0	7.5	58.3	.....	1.0	1,545
Maximum	7	.....	26.5	7.5	10.6	71.6	.....	3.4	1,835
Average	7	.....	18.2	5.9	9.0	64.8	.....	2.1	1,695
Fruit cake, as purchased—									
Minimum	4	.....	14.4	4.8	9.3	60.9	.....	1.4	1,720
Maximum	4	.....	18.4	6.7	12.6	67.5	.....	2.2	1,790
Average	4	.....	17.3	5.9	10.9	64.1	.....	1.8	1,760
Gingerbread, as purchased—									
Minimum	2	.....	16.1	5.4	8.4	62.3	.....	1.5	1,630
Maximum	2	.....	21.5	6.3	9.5	64.7	.9	4.3	1,705
Average	2	.....	18.8	5.8	9.0	63.5	(1).9	2.9	1,670
Miscellaneous, as purchased—									
Minimum	4	.....	12.0	5.1	6.7	53.6	.....	1.1	1,380
Maximum	4	.....	33.2	7.1	14.7	64.7	.....	2.3	1,940
Average	4	.....	21.9	5.9	10.6	60.1	.....	1.5	1,675
Sponge cake, as purchased—									
Minimum	3	.....	6.3	5.7	6.4	57.3	.....	1.2	1,665
Maximum	3	.....	22.7	7.3	13.0	71.1	.....	2.5	1,995
Average	3	.....	15.3	6.3	10.7	65.9	.....	1.8	1,795
All analyses, except fruit, as purchased, average	27	.....	19.9	6.3	9.0	63.3	(7).4	1.5	1,675
Cookies, cakes, etc.:									
Molasses cookies, as purchased a—									
Minimum	6	.....	4.0	6.0	3.9	70.3	.....	1.5	1,725
Maximum	6	.....	10.2	9.7	11.8	78.4	.....	3.0	1,995
Average	6	.....	6.2	7.2	8.7	75.7	.....	2.2	1,910
Miscellaneous cookies, as purchased—									
Minimum	5	.....	5.5	4.3	4.8	61.3	.1	.5	1,760
Maximum	5	.....	19.7	9.0	14.2	77.3	.4	2.3	1,955
Average	5	.....	10.3	6.7	9.6	72.4	1.2	1.0	1,875
Sngar cookies, as purchased b—									
Minimum	9	.....	4.3	4.5	4.8	69.1	.3	.6	1,715
Maximum	9	.....	13.3	8.0	16.7	84.4	2.9	3.4	2,135
Average	9	.....	8.3	7.0	10.2	73.2	(3).1	1.3	1,920
All analyses, as purchased, average	20	.....	8.1	7.0	9.7	73.7	.5	1.5	1,910
Fig biscuits or bars, as purchased	1	.....	17.9	4.6	6.6	69.8	1.7	1.1	1,660
Ginger snaps, as purchased—									
Minimum	7	.....	4.3	5.8	2.3	71.9	.4	1.8	1,695
Maximum	7	.....	9.7	7.3	15.4	80.8	.9	3.7	2,100
Average	7	.....	6.3	6.5	8.6	76.0	(5).7	2.6	1,895
Lady fingers, as purchased—									
Minimum	3	.....	10.5	6.8	3.1	67.9	.1	.5	1,513
Maximum	3	.....	21.7	10.5	7.6	72.9	.4	.6	1,835
Average	3	.....	15.0	8.8	5.0	70.6	(2).2	.6	1,685
Macaroons, as purchased—									
Minimum	4	.....	5.9	3.1	9.6	57.1	.6	.4	1,565
Maximum	4	.....	27.5	10.6	21.5	71.4	1.8	1.0	2,220
Average	4	.....	12.3	6.5	15.2	65.2	1.1	.8	1,975
Wafers, miscellaneous, as purchased—									
Minimum	5	.....	5.3	7.6	2.5	63.5	.2	.6	1,780
Maximum	5	.....	8.5	10.4	14.7	81.3	.5	2.9	1,995
Average	5	.....	6.6	8.7	8.6	74.5	.4	1.6	1,910
Wafers, vanilla, as purchased—									
Minimum	6	.....	4.8	5.6	6.4	65.0	.1	.5	1,850
Maximum	6	.....	9.3	2.8	19.6	77.9	.4	1.5	2,150
Average	6	.....	6.7	6.6	14.0	71.6	(5).3	1.1	2,045
Wafers, all analyses, as purchased, average	11	.....	6.6	7.6	11.6	72.9	(10).3	1.3	1,985
Miscellaneous cakes, as purchased—									
Minimum	17	.....	3.2	4.2	1.7	62.9	.2	.6	1,560
Maximum	17	.....	17.9	13.1	17.6	84.6	.7	1.9	2,060
Average	17	.....	8.2	7.6	9.0	74.0	(16).3	1.2	1,900
Doughnuts, as purchased:									
Minimum	9	.....	11.0	5.1	16.4	45.8	.6	.3	1,795
Maximum	9	.....	25.8	7.6	25.7	63.2	.8	1.9	2,155
Average	9	.....	18.3	6.7	21.0	53.1	(2).7	.9	2,000

a One sample contained sugar 32.4, dextrin 3.2, and starch 40.6 per cent.

b One sample contained sugar 25.2, dextrin 1.8, and starch 42.7 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
BREAD, CRACKERS, PASTRY, ETC.—continued.									
Jumbles, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	4	.....	6.7	6.3	10.9	51.9	0.2	0.6	1,745
Maximum	4	.....	24.8	7.9	15.7	72.1	1.0	1.3	2,025
Average	4	.....	14.3	7.4	13.5	63.7	(3) .5	1.1	1,890
Pie, apple, as purchased:									
Minimum	4	.....	40.2	2.6	7.7	40.3	.....	.9	1,180
Maximum	4	.....	45.5	3.8	11.3	46.2	.....	2.8	1,320
Average	4	.....	42.5	3.1	9.8	42.8	.....	1.8	1,270
Pie, cream, as purchased:									
Minimum	3	.....	27.8	2.1	6.9	42.3	.....	.5	1,425
Maximum	3	.....	37.2	5.6	17.9	55.8	.....	1.5	1,580
Average	3	.....	32.0	4.4	11.4	51.2	.....	1.0	1,615
Pie, custard, as purchased	1	.....	62.4	4.2	6.3	26.1	.....	1.0	830
Pie, lemon, as purchased	1	.....	47.4	3.6	10.1	37.4	.....	1.5	1,190
Pie, mince, as purchased:									
Minimum	3	.....	34.1	4.5	9.7	30.4	.....	1.3	1,115
Maximum	3	.....	51.1	7.5	14.5	44.0	.....	4.4	1,535
Average	3	.....	41.3	5.8	12.3	38.1	.....	2.5	1,335
Pie, raisin, as purchased	1	.....	37.0	3.0	11.3	47.2	.....	1.5	1,410
Pie, squash, as purchased	1	.....	64.2	4.4	8.4	21.7	.....	1.3	840
Pudding, Indian meal, as purchased	1	.....	60.7	5.5	4.8	27.5	.....	1.5	815
Pudding, rice custard, as purchased	1	.....	59.4	4.0	4.6	31.4	.....	.6	825
Pudding, tapioca, as purchased:									
Minimum	3	.....	52.0	2.8	2.3	21.9	.....	.5	570
Maximum	3	.....	71.6	4.2	4.8	38.1	.....	.9	990
Average	3	.....	64.5	3.3	3.2	28.2	.....	.8	720
Pudding, tapioca, with apples, as purchased	1	.....	70.1	.3	.1	29.3	.....	.2	555
SUGARS, STARCHES, ETC.									
Candy, as purchased <i>a</i>						96.0	.....	.....	1,785
Honey, as purchased: <i>b</i>									
Minimum	17	.....	14.3	.2	.....	77.3	.....	.1	1,450
Maximum	17	.....	21.8	1.1	.....	85.4	.....	.8	1,590
Average	17	.....	18.2	.4	.....	81.2	.....	.2	1,520
Molasses, cane, as purchased:									
Minimum	15	.....	19.0	(2)	.....	58.8	.....	.6	1,180
Maximum	15	.....	33.6	5.1	.2	76.7	.....	7.2	1,345
Average	15	.....	25.1	2.4	.....	69.3	.....	3.2	1,290
Starch, arrowroot, as purchased	1	.....	2.3	.....	.....	97.5	.....	.2	1,815
Starch, cornstarch, as purchased	1	.....	.....	.....	.....	90.0	.....	.....	1,675
Starch, manioc, as purchased	1	.....	10.5	.5	.1	88.8	.....	.1	1,665
Starch, sago, as purchased	1	.....	12.2	9.0	.4	78.1	.....	.2	1,635

*a* Average composition of some common candies.

	Number of analyses.	Water.	Sucrose.	Invert sugar.	Ash.	Insoluble in cold water.	Remarks.
		<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per cent.</i>	
Broken candy	8	4.6	75.3	14.0	2.7	0.9 in one sample.	
Cream candy	20	5.3	77.1	8.7	.1	.2 in one sample.	
Marshmallows	3	5.6	33.3	24.1	1.1	27.0	One sample contained 44.8 per cent insoluble matter (starch and flour).
Caramels	3	3.3	37.5	15.2	1.4	32.2	One sample contained 66.3 per cent insoluble matter (starch and flour).
Chocolate creams	1	3.8	58.3	13.8	.5	15.4	

*b* Contained an average of cane sugar 2.8 and reducing sugar 71.1 per cent. The reducing sugar was composed of about equal amounts of glucose (dextrose) and fruit sugar (levulose).

*c* Nitrogenous matter, probably not proteids.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
SUGARS, STARCHES, ETC.—continued.									
Starch, tapioca, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	7	-----	10.3	0.2	-----	86.6	0.1	-----	1,635
Maximum	7	-----	12.3	.6	0.3	89.0	.2	0.3	1,656
Average	7	-----	11.4	.4	.1	88.0	(5).1	.1	1,650
Sugar, coffee or brown sugar, as purchased	328	-----	-----	-----	-----	95.0	-----	-----	1,765
Sugar, granulated sugar, as purchased	-----	-----	-----	-----	-----	100.0	-----	-----	1,860
Sugar, maple, as purchased:									
Minimum	17	-----	-----	-----	-----	74.0	-----	-----	1,375
Maximum	17	-----	-----	-----	-----	95.2	-----	-----	1,770
Average	17	-----	-----	-----	-----	82.8	-----	-----	1,540
Sugar, powdered, as purchased	-----	-----	-----	-----	-----	100.0	-----	-----	1,860
Sirup, maple, as purchased:									
Minimum	50	-----	-----	-----	-----	45.9	-----	-----	855
Maximum	50	-----	-----	-----	-----	81.9	-----	-----	1,525
Average	50	-----	-----	-----	-----	71.4	-----	-----	1,330
VEGETABLES. <i>a</i>									
Artichokes, as purchased: <i>b</i>									
Minimum	2	-----	77.5	2.2	.1	15.3	.8	.9	330
Maximum	2	-----	81.5	2.9	.2	18.3	.9	1.1	395
Average	2	-----	79.5	2.6	.2	16.7	.8	1.0	365
Asparagus, fresh, as purchased: <i>c</i>									
Minimum	3	-----	93.6	1.6	.2	3.6	.7	.5	106
Maximum	3	-----	94.3	2.1	.3	3.1	.8	1.0	110
Average	3	-----	94.0	1.8	.2	3.3	.8	.7	105
Asparagus, cooked, as purchased	1	-----	91.6	2.1	3.3	2.2	-----	.8	220
Beans, butter, green:									
Edible portion	1	-----	58.9	9.4	.6	29.1	-----	2.0	740
As purchased	1	50.0	29.4	4.7	.3	14.6	-----	1.0	370
Beans, dried, as purchased:									
Minimum	11	-----	9.6	19.9	1.4	57.2	3.2	2.7	1,540
Maximum	11	-----	15.5	26.6	3.1	63.5	7.2	4.4	1,690
Average	11	-----	12.6	22.5	1.8	59.6	(4)4.4	3.5	1,605
Beans, frijoles (New Mexico), as purchased:									
Minimum	4	-----	6.3	20.9	1.0	60.7	-----	4.0	1,625
Maximum	4	-----	9.9	24.4	1.5	66.9	-----	4.4	1,695
Average	4	-----	7.5	21.9	1.3	65.1	-----	4.2	1,675
Beans, Lima, dried, as purchased:									
Minimum	4	-----	8.3	12.8	.6	61.6	-----	3.6	1,600
Maximum	4	-----	12.2	24.5	1.9	70.1	-----	4.7	1,645
Average	4	-----	10.4	18.1	1.5	65.9	-----	4.1	1,625
Beans, Lima, fresh: <i>d</i>									
Edible portion	1	-----	68.5	7.1	.7	22.0	1.7	1.7	570
As purchased	-----	55.0	30.8	3.2	.3	9.9	.8	.8	255
Beans, mesquite, dry, as purchased	1	-----	4.8	12.2	2.5	77.1	-----	3.4	1,765
Beans, string, cooked, edible portion	1	-----	95.3	.8	1.1	1.9	-----	.9	95
Beans, string, fresh: <i>e</i>									
Edible portion—									
Minimum	5	-----	83.5	1.7	.2	5.1	1.2	.7	165
Maximum	5	-----	91.7	2.8	.4	12.6	2.6	.9	300
Average	5	-----	89.2	2.3	.3	7.4	(2)1.9	.8	195
As purchased	-----	7.0	83.0	2.1	.3	6.9	1.3	.7	180
Beets, cooked, edible portion	1	-----	88.6	2.3	.1	7.4	-----	1.6	185
Beets, fresh: <i>f</i>									
Edible portion—									
Minimum	24	-----	79.5	.9	.1	3.8	.6	.7	95
Maximum	24	-----	94.1	3.0	.2	16.3	1.7	2.0	365
Average	24	-----	87.5	1.6	.1	9.7	(18).9	1.1	215
As purchased	-----	20.0	70.0	1.3	.1	7.7	-----	.9	170

*a* Such vegetables as potatoes, squash, beets, etc., have a certain amount of inedible material, skin, seeds, etc. The amount varies with the method of preparing the vegetables, and can not be accurately estimated. The figures given for refuse of vegetables, fruits, etc., are assumed to represent approximately the amount of refuse in these foods as ordinarily prepared.

*b* In one sample, protein ( $N \times 6.25$ ) 2.2 and proteids 1.2 per cent.

*c* Two samples contained an average of 0.23 per cent free acid. Three samples contained an average protein ( $N \times 6.25$ ) 1.83 and proteids 0.94 per cent.

*d* Contained protein ( $N \times 6.25$ ) 7.1 and proteids 5.7 per cent.

*e* One sample contained free acid 0.49, protein ( $N \times 6.25$ ) 1.7, and proteids 0.87 per cent.

*f* The ash of 8 samples contained an average of  $CaO$  6.2,  $K_2O$  44,  $MgO$  3.1,  $P_2O_5$  0.4,  $Na_2O$  10.3, and  $Fe_2O_3$  0.3 per cent. Seven samples contained an average of protein ( $N \times 6.25$ ) 1.6, and proteids 0.55 per cent.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Cabbage: <i>a</i>									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	18		86.0	0.2	0.1	3.4	0.5	0.4	100
Maximum	18		94.3	2.9	.7	8.0	1.6	2.4	225
Average	16		91.5	1.6	.8	5.6	( <sup>8</sup> ) 1.1	1.0	145
As purchased		15.0	77.7	1.4	.2	4.8		.9	125
Cabbage, curly, as purchased	1		87.3	4.1	.6	6.2		1.8	215
Cabbage sprouts:									
Edible portion	1		82.2	4.7	1.1	4.3		1.7	215
As purchased	1	61.8	33.7	1.8	.4	1.7		.6	80
Carrots, fresh: <i>b</i>									
Edible portion—									
Minimum	18		83.1	.7		6.5	.6	.6	155
Maximum	18		91.1	2.0	.7	13.8	2.3	1.6	295
Average	18		88.2	1.1	.4	9.3	( <sup>15</sup> ) 1.1	1.0	210
As purchased		20.0	70.6	.9	.2	7.4		.9	160
Carrots, evaporated, edible portion	1		3.5	7.7	3.6	80.3		4.9	1,790
Cauliflower, as purchased: <i>c</i>									
Minimum	2		90.8	1.6	.2	3.4		.6	110
Maximum	2		93.8	2.0	.8	6.0		.8	175
Average	2		92.3	1.8	.5	4.7	( <sup>1</sup> ) 1.0	.7	140
Celery:									
Edible portion—									
Minimum	5		93.1	1.0	.1	3.0		.9	75
Maximum	5		95.0	1.4	.2	4.6		1.1	115
Average	5		94.5	1.1	.1	3.3		1.0	85
As purchased		20.0	75.6	.9	.1	2.6		.8	70
Collards: <i>d</i>									
Edible portion—									
Minimum	2		85.8	3.3	.5	6.2		1.4	205
Maximum	2		88.3	5.7	.7	6.5		1.6	250
Average	2		87.1	4.5	.6	6.3		1.5	225
As purchased	1	55.3	39.5	1.5	.2	2.9		.6	90
Corn, green: <i>e</i>									
Edible portion—									
Minimum	3		72.1	2.8	1.0	14.1		.7	360
Maximum	3		81.3	3.7	1.1	22.6		.8	530
Average	3		75.4	3.1	1.1	19.7	( <sup>1</sup> ) .5	.7	470
As purchased		61.0	29.4	1.2	.4	7.7		.3	180
Cucumbers: <i>f</i>									
Edible portion—									
Minimum	4		94.7	.5	.1	2.2	.5	.3	65
Maximum	4		96.3	.9	.5	4.0	.9	.6	95
Average	4		95.4	.8	.2	3.1	( <sup>2</sup> ) .7	.5	80
As purchased		15.0	81.1	.7	.2	2.6		.4	70
Eggplant, edible portion <i>g</i>	1		92.9	1.2	.3	5.1	.8	.5	130
Greens, beet, cooked, as purchased	1		89.5	2.2	3.4	3.2		1.7	245
Greens, dandelion, as purchased	1		81.4	2.4	1.0	10.6		4.6	285
Greens, turnip-salad, as purchased:									
Minimum	2		84.4	3.2	.5	5.5		1.8	180
Maximum	2		89.0	5.2	.8	7.1		2.5	265
Average	2		86.7	4.2	.6	6.3		2.2	220
Kohl-rabi, edible portion: <i>h</i>									
Minimum	2		90.9	1.7	.1	5.4	1.1	1.3	140
Maximum	2		91.3	2.3	.1	5.6	1.4	1.3	145
Average	2		91.1	2.0	.1	5.5	1.3	1.8	145

*a* The ash of 2 samples contained an average of CaO 4.7, MgO 1.9, P<sub>2</sub>O<sub>5</sub> 5.5, Na<sub>2</sub>O 6.3, and K<sub>2</sub>O 61.5 per cent. Five samples contained an average of protein (N×6.25) 2.4 and proteids 1.4 per cent.

*b* The ash of 1 sample contained CaO 7.3, K<sub>2</sub>O 53.7, MgO 2.8, P<sub>2</sub>O<sub>5</sub> 9.8, Na<sub>2</sub>O 1.4, and Fe<sub>2</sub>O<sub>3</sub> 0.8 per cent. One sample contained protein (N×6.25) 1 and proteids 0.5 per cent. One sample contained cane sugar 3.6 and fruit sugar 3 per cent.

*c* One sample contained free acid 0.8, protein (N×6.25) 1.6, and proteids 1 per cent.

*d* One sample contained protein (N×6.25) 5.7 and proteids 2.9 per cent.

*e* One sample contained free acid 0.01, protein (N×6.25) 2.8, and proteids 2.2 per cent.

*f* One sample contained 0.02 per cent free acid. Two samples contained an average of protein (N×6.25) 0.8, and proteids 0.4 per cent.

*g* Contained free acid 0.01, protein (N×6.25) 1.2, and proteids 0.6 per cent.

*h* Two samples contained an average of protein (N×6.25) 2 and proteids 0.5 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Lookes:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion .....	1	.....	91.8	1.2	0.5	5.8	.....	0.7	150
As purchased .....	1	15.0	78.0	1.0	.4	5.0	0.6	.6	130
Lentils, dried, as purchased:									
Minimum .....	3	.....	6.4	24.5	.7	58.6	.....	3.2	1,595
Maximum .....	3	.....	10.7	26.6	1.5	59.8	.....	8.6	1,635
Average .....	3	.....	8.4	25.7	1.0	59.2	.....	5.7	1,620
Lettuce: <sup>a</sup>									
Edible portion—									
Minimum .....	8	.....	91.5	.7	.1	1.6	.4	.5	65
Maximum .....	8	.....	97.0	1.8	.6	4.9	1.1	1.2	150
Average .....	8	.....	94.7	1.2	.3	2.9	(?) .7	.9	90
As purchased .....	.....	15.0	80.5	1.0	.2	2.5	.....	.8	75
Mushrooms, as purchased: <sup>b</sup>									
Minimum .....	11	.....	70.8	1.7	.2	2.4	.1	.7	90
Maximum .....	11	.....	91.4	6.0	.9	20.3	2.0	2.2	525
Average .....	11	.....	88.1	3.5	.4	6.8	(8) .8	1.2	210
Okra:									
Edible portion—									
Minimum .....	2	.....	87.4	1.2	.1	5.3	.....	.5	125
Maximum .....	2	.....	92.9	2.0	.4	9.5	.....	.7	230
Average .....	2	.....	90.2	1.6	.2	7.4	(1) 3.4	.6	175
As purchased .....	.....	12.5	78.9	1.4	.2	6.5	.....	.5	155
Onions, fresh: <sup>c</sup>									
Edible portion—									
Minimum .....	15	.....	81.5	.2	.1	4.2	.7	.1	90
Maximum .....	15	.....	95.2	4.4	.8	15.5	1.3	1.2	335
Average .....	15	.....	87.6	1.6	.3	9.9	(7) .8	.6	225
As purchased .....	.....	10.0	78.9	1.4	.3	8.9	.....	.5	205
Onions, cooked, prepared, as purchased .....	1	.....	91.2	1.2	1.8	4.9	.....	.9	190
Onions, green (New Mexico):									
Edible portion—									
Minimum .....	2	.....	85.4	.8	.1	9.9	.....	.5	205
Maximum .....	2	.....	88.7	1.3	.2	12.4	.....	.7	265
Average .....	2	.....	87.1	1.0	.1	11.2	.....	.6	230
As purchased .....	.....	51.0	42.6	.5	.1	5.5	.....	.3	115
Parsnips: <sup>d</sup>									
Edible portion—									
Minimum .....	3	.....	79.5	1.4	.2	8.5	.....	.7	190
Maximum .....	3	.....	89.2	1.9	.8	16.7	.....	1.9	375
Average .....	3	.....	83.0	1.6	.5	13.5	(1) 2.5	1.4	300
As purchased .....	.....	20.0	66.4	1.3	.4	10.8	.....	1.1	240
Peas, dried, as purchased:									
Minimum .....	8	.....	6.9	20.4	.8	58.0	1.2	2.2	1,570
Maximum .....	8	.....	15.0	28.0	1.3	67.4	7.9	4.3	1,670
Average .....	8	.....	9.5	24.6	1.0	62.0	(2) 4.5	2.9	1,655
Peas, green: <sup>e</sup>									
Edible portion—									
Minimum .....	5	.....	71.6	4.4	.3	13.4	.....	.9	400
Maximum .....	5	.....	78.1	8.0	.6	18.9	.....	1.2	520
Average .....	5	.....	74.6	7.0	.5	16.9	(1) 1.7	1.0	465
As purchased .....	.....	45.0	40.8	3.6	.2	9.8	.....	.6	255
Peas, green, cooked, as purchased .....	1	.....	73.8	6.7	3.4	14.6	.....	1.5	540
Peas, sugar, green, edible portion .....	1	.....	81.8	3.4	.4	13.7	1.6	.7	335
Cowpeas, dried, as purchased:									
Minimum .....	13	.....	10.0	19.3	1.1	53.1	3.4	2.9	1,450
Maximum .....	13	.....	20.9	23.0	1.6	65.4	5.0	3.8	1,650
Average .....	13	.....	13.0	21.4	1.4	60.8	4.1	3.4	1,590
Cowpeas, green, edible portion .....	1	.....	65.9	9.4	.6	22.7	.....	1.4	620

<sup>a</sup> The ash of 2 samples contained an average of CaO 5.1, K<sub>2</sub>O 46.6, MgO 0.8, P<sub>2</sub>O<sub>5</sub> 5.3, and Na<sub>2</sub>O 3.3 per cent. Five samples contained an average of protein (N×0.25) 1.4 and proteids 0.8 per cent.

<sup>b</sup> Eight samples contained an average of 3.1 protein (N×6.25) and 2.2 per cent proteids.

<sup>c</sup> The ash of 1 sample contained CaO 6.4, K<sub>2</sub>O 30.2, MgO 2.9, and P<sub>2</sub>O<sub>5</sub> 12.4 per cent. Four samples contained an average of protein (N×6.25) 1.3 and proteids 0.0 per cent.

<sup>d</sup> One sample contained CaO 6, K<sub>2</sub>O 42.2, MgO 3.1, P<sub>2</sub>O<sub>5</sub> 12.8, Na<sub>2</sub>O 0.4, and Fe<sub>2</sub>O<sub>3</sub> 0.3 per cent.

<sup>e</sup> One sample contained protein (N×6.25) 4.4, and proteids 4.3 per cent.

<sup>f</sup> Refuse, pods.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Potatoes, raw or fresh: <i>a</i>									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	136	67.8	1.1	13.5	0.2	27.4	0.2	0.5	285
Maximum	136	84.0	3.0	27.4	.9	1.0	570		
Average	136	78.3	2.2	18.4	(53).4	1.0	385		
As purchased		20.0	62.6	1.8	.1	14.7	.8	310	
Potatoes, evaporated, as purchased:									
Minimum	3	4.8	7.3	.4	79.5	2.7	1,640		
Maximum	3	8.7	9.5	.4	82.2	3.6	1,725		
Average	3	7.1	8.5	.4	80.9	3.1	1,650		
Potatoes, cooked, boiled, as purchased: <i>b</i>									
Minimum	11	69.7	1.8	.0	16.1	.7	340		
Maximum	11	81.0	3.1	.4	26.5	1.4	545		
Average	11	75.5	2.5	.1	20.9	(1).6	440		
Potatoes, cooked, chips, as purchased:									
Minimum	2	1.8	6.0	35.5	42.7	4.5	2,580		
Maximum	2	2.6	7.6	44.2	50.6	4.5	2,770		
Average	2	2.2	6.8	39.8	46.7	4.5	2,675		
Potatoes, cooked, mashed, and creamed, as purchased:									
Minimum	4	68.9	2.0	1.0	13.9	1.1	420		
Maximum	4	78.0	3.6	4.5	22.4	2.0	615		
Average	4	75.1	2.6	3.0	17.8	1.5	505		
Potatoes, sweet, raw, or fresh: <i>c</i>									
Edible portion—									
Minimum	95	45.8	.4	.2	17.1	.6	.7	385	
Maximum	95	79.0	3.7	1.4	49.1	4.6	2.0	915	
Average	95	69.0	1.8	.7	27.4	(58).3	1.1	570	
As purchased		20.0	55.2	1.4	.6	21.9	.9	460	
Potatoes, sweet, cooked and prepared, as purchased:	1	51.0	3.0	2.1	42.1	.9	925		
Pumpkins:									
Edible portion—									
Minimum	3	02.3	.9	.1	3.9	.9	.6	95	
Maximum	3	94.4	1.1	.2	5.9	1.1	.7	135	
Average	3	93.1	1.0	.1	5.2	1.2	.6	120	
As purchased		50.0	46.5	.5	.1	2.6	.3	60	
Radishes:									
Edible portion—									
Minimum	4	86.6	.5	.0	3.4	.7	.7	85	
Maximum	4	94.8	3.0	.3	8.3	.7	1.8	225	
Average	4	91.8	1.3	.1	5.8	(2).7	1.0	135	
As purchased		30.0	64.3	.9	.1	4.0	.7	95	
Rhubarb: <i>d</i>									
Edible portion—									
Minimum	2	92.7	.3	.1	2.9	.6	65		
Maximum	2	96.1	.8	1.2	4.4	.9	145		
Average	2	94.4	.6	.7	3.6	(1).1	.7	105	
As purchased		40.0	56.6	.4	.4	2.2	.4	65	
Rutabagas: <i>e</i>									
Edible portion—									
Minimum	5	87.1	.9	.1	6.2	1.1	.7	135	
Maximum	5	91.8	2.0	.3	10.3	1.4	1.4	220	
Average	5	88.9	1.3	.2	8.5	1.2	1.1	190	
As purchased		30.0	62.2	.9	.1	6.0	.8	135	

*a* One sample contained 0.02 per cent free acid. In 4 samples the average amount of proteid nitrogen was 57 per cent of the total nitrogen. Twenty samples contained an average of 0.8 per cent malic acid, pectose substances, etc. The ash of 40 samples contained an average of CaO 1, K<sub>2</sub>O 59.2, MgO 4.5, P<sub>2</sub>O<sub>5</sub> 13.8, Na<sub>2</sub>O 4, and SO<sub>3</sub> 6.5 per cent.

*b* One sample contained cane sugar 0.2, glucose 0.2, and starch 17.4 per cent.

*c* The edible portion of 26 samples contained an average of cane sugar 2.5 and invert sugar 3.4 per cent. Two samples contained, in the edible portion, an average of protein (N×6.25) 1.8 and proteids 1.3 per cent.

*d* The edible portion of 1 sample contained free acid 0.5, protein (N×6.25) 0.7, and proteids 0.4 per cent.

*e* The ash of the edible portion of 3 samples contained an average of CaO 9.4, K<sub>2</sub>O 43.6, MgO 2.8, P<sub>2</sub>O<sub>5</sub> 11.7, Na<sub>2</sub>O 10.2, and Fe<sub>2</sub>O<sub>3</sub> 0.5 per cent. One sample contained protein (N×6.25) 2 and proteids 0.0 per cent.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES—continued.									
Sauerkraut, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	-----	86.3	1.5	0.2	3.3	-----	3.3	105
Maximum	2	-----	91.3	1.9	.8	4.4	-----	7.0	145
Average	2	-----	88.8	1.7	.5	3.8	-----	5.2	125
Spinach, fresh, as purchased: <i>a</i>									
Minimum	3	-----	91.6	1.8	.2	3.1	0.7	1.9	100
Maximum	3	-----	92.8	2.4	.5	3.4	1.0	2.4	120
Average	3	-----	92.3	2.1	.3	3.2	.9	2.1	110
Spinach, cooked, as purchased	1	-----	89.8	2.1	4.1	2.6	-----	1.4	260
Squash: <i>b</i>									
Edible portion—									
Minimum	10	-----	78.9	.6	.1	3.5	.5	.4	90
Maximum	10	-----	95.2	3.1	1.4	16.1	1.2	1.6	385
Average	10	-----	88.3	1.4	.5	9.0	( <sup>9</sup> ) .8	.8	215
As purchased	-----	50.0	44.2	.7	.2	4.5	-----	.4	105
Tomatoes, fresh, as purchased: <i>c</i>									
Minimum	27	-----	91.3	.3	.2	2.2	.5	.3	75
Maximum	27	-----	96.3	1.3	1.4	6.5	1.2	.8	160
Average	27	-----	94.3	.9	.4	3.9	( <sup>22</sup> ) .6	.5	105
Tomatoes, dried, as purchased	1	-----	7.3	12.9	8.1	62.3	-----	9.4	1,740
Turnips: <i>d</i>									
Edible portion—									
Minimum	19	-----	70.1	.7	.1	2.8	.8	.5	100
Maximum	19	-----	95.7	3.9	.4	23.8	3.2	2.1	520
Average	19	-----	89.6	1.3	.2	8.1	( <sup>9</sup> ) 1.3	.8	185
As purchased	-----	30.0	62.7	.9	.1	5.7	-----	.6	125
VEGETABLES, CANNED.									
Artichokes, as purchased:									
Minimum	3	-----	90.2	.5	-----	3.7	.5	1.4	85
Maximum	3	-----	93.9	1.0	-----	6.8	.6	2.2	140
Average	3	-----	92.5	.8	-----	5.0	.6	1.7	110
Asparagus, as purchased:									
Minimum	14	-----	92.9	.9	.0	2.2	.4	.8	70
Maximum	14	-----	95.4	2.4	.2	4.1	.3	1.8	120
Average	14	-----	94.4	1.5	.1	2.8	.5	1.2	85
Beans, baked, as purchased:									
Minimum	21	-----	59.9	5.1	.3	13.1	1.3	1.4	425
Maximum	21	-----	78.2	8.1	6.8	23.2	4.5	1.6	870
Average	21	-----	68.9	6.9	2.5	19.6	( <sup>12</sup> ) 2.5	2.1	600
Beans, string, as purchased:									
Minimum	29	-----	77.3	.6	.0	2.0	.4	.5	50
Maximum	29	-----	96.3	4.0	.5	13.5	.8	4.7	345
Average	29	-----	93.7	1.1	.1	3.8	( <sup>18</sup> ) .5	1.3	95
Beans, little green, as purchased	1	-----	93.8	1.2	.1	3.4	.6	1.5	90
Beans, wax, as purchased	1	-----	94.6	1.0	.1	3.1	.6	1.2	80
Beans, haricots verts, as purchased:									
Minimum	7	-----	94.3	.9	.0	2.1	.4	.9	55
Maximum	7	-----	96.1	1.4	.3	3.0	.5	1.3	95
Average	7	-----	95.2	1.1	.1	2.5	.5	1.1	70
Beans, haricots flageolets, as purchased:									
Minimum	3	-----	80.4	4.0	.0	10.8	1.0	.9	280
Maximum	3	-----	83.9	5.2	.1	13.4	1.0	1.7	350
Average	3	-----	81.6	4.6	.1	12.5	1.0	1.2	320
Beans, haricots panaches, as purchased	1	-----	86.1	3.7	-----	9.2	1.0	1.0	240
Beans, Lima, as purchased:									
Minimum	16	-----	75.7	3.2	.2	10.5	.9	1.0	280
Maximum	16	-----	83.9	5.6	.6	17.9	1.4	2.6	445
Average	16	-----	79.5	4.0	.3	14.6	( <sup>16</sup> ) 1.2	1.6	360

*a* The ash of 2 samples contained an average of CaO 2.6, K<sub>2</sub>O 39.0, MgO 2.2, P<sub>2</sub>O<sub>5</sub> 2.2, and Na<sub>2</sub>O 9.4 per cent. One sample contained 0.01 per cent free acid. One sample contained protein (N×6.25) 2.1 and proteids 1.3 per cent.

*b* The edible portion of 2 samples contained an average of protein (N×6.25) 0.6 and proteids 0.5 per cent.

*c* The ash of 1 sample contained CaO 5.8, K<sub>2</sub>O 68.1, MgO 3.7, and P<sub>2</sub>O<sub>5</sub> 8.7 per cent. Six samples contained an average of protein (N×6.25) 0.8 and proteids 0.5 per cent.

*d* The ash of the edible portion of 4 samples contained an average of CaO 8.8, K<sub>2</sub>O 43, MgO 2.7, P<sub>2</sub>O<sub>5</sub> 11.4, and Na<sub>2</sub>O 8.3 per cent. One sample contained protein (N×6.25) 0.8 and proteids 0.2 per cent. One sample contained 4.4 per cent sugar.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Food value per pound.
VEGETABLE FOOD—Continued.									
VEGETABLES, CANNED—continued.									
		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cal.</i>
Beans, red kidney, as purchased <i>a</i> .....	1	.....	72.7	7.0	0.2	18.5	1.2	1.6	480
Brussels sprouts, as purchased .....	1	.....	93.7	1.5	.1	3.4	.5	1.3	95
Corn, green, as purchased: <i>b</i>									
Minimum .....	52	.....	68.3	2.0	.5	9.8	.4	.5	250
Maximum .....	52	.....	86.1	3.7	1.9	25.8	1.9	1.6	610
Average .....	52	.....	76.1	2.8	1.2	19.0	(43) .8	.9	455
Corn and tomatoes, as purchased:									
Minimum .....	2	.....	83.6	1.2	.4	6.4	.4	.5	160
Maximum .....	2	.....	91.5	2.1	.4	12.7	.6	1.2	295
Average .....	2	.....	87.6	1.6	.4	9.6	.5	.8	225
Macedoine (mixed vegetables), as purchased:									
Minimum .....	5	.....	91.5	.7	.....	2.3	.4	.8	55
Maximum .....	5	.....	95.9	1.7	.....	5.7	.7	1.2	135
Average .....	5	.....	93.1	1.4	.....	4.5	.6	1.0	110
Okra, as purchased: <i>c</i>									
Minimum .....	4	.....	94.0	.5	.0	3.3	.4	.3	75
Maximum .....	4	.....	94.9	.9	.2	3.9	1.4	1.7	95
Average .....	4	.....	94.4	.7	.1	3.6	.7	1.2	85
Okra and tomatoes, as purchased: <i>d</i>									
Minimum .....	3	.....	91.4	1.1	.2	4.8	.4	1.4	125
Maximum .....	3	.....	92.3	1.2	.3	5.7	.6	1.8	135
Average .....	3	.....	91.8	1.1	.3	5.2	.5	1.6	130
Peas, green, as purchased: <i>e</i>									
Minimum .....	88	.....	77.5	1.6	.0	4.9	.6	.3	130
Maximum .....	88	.....	92.7	6.1	.8	17.4	1.5	2.0	405
Average .....	88	.....	85.3	3.6	.2	9.8	(83) 1.2	1.1	255
Potatoes, sweet, as purchased:									
Minimum .....	2	.....	42.0	1.3	.3	29.2	.....	.8	580
Maximum .....	2	.....	68.4	2.6	.5	53.6	.....	1.3	1,065
Average .....	2	.....	55.2	1.9	.4	41.4	(1) .8	1.1	820
Pumpkins, as purchased:									
Minimum .....	7	.....	88.2	.5	.1	4.7	.6	.4	100
Maximum .....	7	.....	94.3	1.2	.4	9.6	1.5	1.5	205
Average .....	7	.....	91.6	.8	.2	6.7	(5) 1.1	.7	150
Squash, as purchased:									
Minimum .....	5	.....	85.6	.2	.1	8.2	.3	.2	185
Maximum .....	5	.....	89.9	1.6	1.2	13.9	1.1	.7	265
Average .....	5	.....	87.6	.9	.5	10.5	(2) .7	.5	235
Succotash, as purchased:									
Minimum .....	12	.....	71.4	2.9	.7	14.9	.7	.4	375
Maximum .....	12	.....	79.9	4.4	1.7	22.4	1.1	1.4	540
Average .....	12	.....	75.9	3.6	1.0	18.6	(10) .9	.9	455
Tomatoes, as purchased: <i>f</i>									
Minimum .....	19	.....	92.5	.3	.1	1.4	.4	.2	80
Maximum .....	19	.....	97.9	1.7	.3	8.1	.7	1.2	135
Average .....	19	.....	94.0	1.2	.2	4.0	(11) .5	.6	105
PICKLES, CONDIMENTS, ETC.									
Catsup, tomato, as purchased:									
Minimum .....	2	.....	77.7	1.1	.1	8.5	.....	2.5	185
Maximum .....	2	.....	87.8	2.0	.4	16.1	.....	3.8	355
Average .....	2	.....	82.8	1.5	.2	12.3	.....	3.2	265
Horseradish, as purchased:									
Minimum .....	2	.....	85.4	1.2	.1	9.6	.....	1.5	210
Maximum .....	2	.....	87.5	1.6	.2	11.3	.....	1.6	245
Average .....	2	.....	86.4	1.4	.2	10.5	.....	1.5	230
Horseradish, evaporated, as purchased .....	1	.....	4.3	11.0	.8	77.7	.....	6.2	1,685
Olives, green:									
Edible portion .....	1	.....	58.0	1.1	27.6	11.6	.....	1.7	1,400
As purchased .....	1	27.0	42.3	.8	20.2	8.5	.....	1.2	1,025
Olives, ripe:									
Edible portion .....	1	.....	64.7	1.7	25.0	4.3	.....	3.4	1,205
As purchased .....	1	19.0	52.4	1.4	21.0	3.5	.....	2.7	975
Peppers (paprika), green, dried, as purchased .....	1	.....	5.0	15.5	8.5	63.0	.....	8.0	1,820

*a* Shelled.*b* Thirty-two samples contained an average of 0.4 per cent NaCl.*c* Three samples contained an average of 1.1 per cent NaCl.*d* Three samples contained an average of 1 per cent NaCl.*e* Eighty samples contained an average of 0.7 per cent NaCl.*f* Seven samples contained an average of 0.1 per cent NaCl.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
PICKLES, CONDIMENTS, ETC.—continued.									
Peppers, red chili, as purchased: <i>a</i>		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	5	—	3.9	8.2	6.3	67.3	—	7.4	1,770
Maximum	5	—	6.4	11.1	10.3	71.9	—	8.0	1,895
Average	5	—	5.3	9.4	7.7	70.0	—	7.6	1,800
Pickles, cucumber, as purchased:									
Minimum	3	—	89.0	.4	.1	1.3	—	2.7	35
Maximum	3	—	95.5	.7	.5	5.4	—	4.6	130
Average	3	—	92.9	.5	.3	2.7	—	3.6	70
Pickles, mixed, as purchased	1	—	93.8	1.1	.4	4.0	—	.7	110
Pickles, spiced, as purchased	1	—	77.1	.4	.1	20.7	—	1.7	395
FRUITS, BERRIES, ETC., FRESH: <i>b</i>									
Apples: <i>c</i>									
Edible portion—									
Minimum	29	—	77.3	.1	.1	8.8	0.9	.2	175
Maximum	29	—	90.9	.8	1.4	21.3	1.4	.6	420
Average	29	—	84.6	.4	.5	14.2	(7) 1.2	.3	290
As purchased	—	—	25.0	.3	.3	10.8	—	.3	220
As purchased	—	—	—	—	—	—	—	—	—
Apricots: <i>d</i>									
Edible portion, average	11	—	85.0	1.1	—	13.4	—	.6	270
As purchased	—	6.0	79.9	1.0	—	12.6	—	.5	255
Bananas, yellow: <i>e</i>									
Edible portion—									
Minimum	6	—	66.3	1.0	.0	16.3	—	.5	330
Maximum	6	—	81.6	1.6	1.4	29.8	—	1.1	610
Average	6	—	75.3	1.3	.6	22.0	(1) 1.6	.8	460
As purchased	—	35.0	48.9	.8	.4	14.3	—	.6	300
Blackberries, as purchased: <i>f</i>									
Minimum	9	—	78.4	.9	.5	7.5	—	.4	245
Maximum	9	—	88.9	1.5	2.9	16.7	—	.9	455
Average	9	—	86.3	1.3	1.0	10.9	(1) 2.5	.5	270
Cherries: <i>g</i>									
Edible portion—									
Minimum	16	—	76.9	.7	.8	11.4	—	.5	320
Maximum	16	—	86.1	1.1	.8	20.6	—	1.0	430
Average	16	—	80.9	1.0	.8	16.7	(1) .2	.6	365
As purchased	—	5.0	76.8	.9	.8	15.9	—	.6	345
Cranberries, as purchased:									
Minimum	3	—	87.6	.4	.4	9.3	1.2	.2	200
Maximum	3	—	89.5	.5	.9	10.9	1.7	.2	245
Average	3	—	88.9	.4	.6	9.9	(2) 1.5	.2	215
Currents, as purchased	1	—	85.0	1.5	—	12.8	—	.7	265
Figs, fresh, as purchased, average <i>h</i>	28	—	79.1	1.5	—	18.8	—	.6	380
Grapes: <i>i</i>									
Edible portion, average	5	—	77.4	1.3	1.6	19.2	(1) 4.3	.5	450
As purchased	—	25.0	58.0	1.0	1.2	14.4	—	.4	335
Huckleberries, edible portion	1	—	81.9	.6	.6	16.6	—	.3	345

*a* Refuse, seeds and stem.

*b* Fruits contain a certain proportion of inedible materials, as skin, seeds, etc., which are properly classed as refuse. In some fruits, as oranges and prunes, the amount rejected in eating is practically the same as the refuse. In others, as apples and pears, more or less of the edible material is ordinarily rejected with the skin and seeds and other inedible portions. The edible material which is thus thrown away, and should properly be classed with the waste, is here classed with the refuse. The figures for refuse here given represent, as nearly as can be ascertained, the quantities ordinarily rejected.

*c* The edible portion of 1 sample contained glucose 6.4, cane sugar 6, and starch, acids, etc., 1.2 per cent. The inedible portion of 1 sample contained protein ( $N \times 6.25$ ) 0.3 and proteids 0.4 per cent.

*d* The inedible portion of 1 sample contained 11.9 per cent sugar. The fat was not determined.

*e* The edible portion of 1 sample contained protein ( $N \times 6.25$ ) 1.4 and proteids 1.2 per cent. The inedible portion of 1 sample contained 0.1 per cent free acid.

*f* One sample contained protein ( $N \times 6.25$ ) 0.9 and proteids 0.7 per cent.

*g* The ash of 1 sample contained  $CaO$  4.2,  $K_2O$  57.7,  $MgO$  5.5,  $P_2O_5$  15.1,  $Na_2O$  6.8, and  $SO_3$  5.8 per cent. The inedible portion of 1 sample contained protein ( $N \times 6.25$ ) 1.1 and proteids 0.4 per cent. The edible portion of 1 sample contained 0.1 per cent free acid. Six samples contained an average of 11 per cent sugar.

*h* The ash of 3 samples contained an average of  $CaO$  2.4,  $K_2O$  55.8,  $MgO$  5.6,  $P_2O_5$  12.4, and  $SO_3$  3.9 per cent. Fat not determined.

*i* The ash of 5 samples contained an average of  $CaO$  5,  $K_2O$  50.9,  $MgO$  3,  $P_2O_5$  21.2, and  $SO_3$  4.3 per cent.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrate (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FRUITS, BERRIES, ETC., FRESH—continued.									
Lemons: <i>a</i>									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	4	—	88.4	0.8	0.1	8.2	0.9	0.5	180
Maximum	4	—	90.2	1.1	1.5	9.0	1.3	.5	240
Average	4	—	89.3	1.0	.7	8.5	( <sup>2</sup> ) 1.1	.5	205
As purchased	—	30.0	62.5	.7	.5	5.9	—	.4	145
Lemon juice	22	—	—	—	—	69.8	—	—	180
Muskmelons:									
Edible portion	1	—	89.5	.6	—	9.3	2.1	.6	185
As purchased	1	50.0	44.8	.3	—	4.6	—	.3	90
Nectarines: <i>c</i>									
Edible portion	1	—	82.9	.6	—	15.9	—	.6	305
As purchased	1	6.6	77.4	.6	—	14.8	—	.6	285
Oranges: <i>d</i>									
Edible portion—									
Minimum	23	—	80.0	.8	.1	11.6	—	.5	215
Maximum	23	—	88.3	1.1	.3	18.5	—	.5	375
Average	23	—	86.9	.8	.2	11.6	—	.5	240
As purchased	—	27.0	63.4	.6	.1	8.5	—	.4	170
Peaches:									
Edible portion—									
Minimum	2	—	89.3	.4	.1	9.3	—	.4	185
Maximum	2	—	89.6	.9	.1	9.4	—	.5	195
Average	2	—	89.4	.7	.1	9.4	( <sup>1</sup> ) 3.6	.4	190
As purchased	2	18.0	73.3	.5	.1	7.7	—	.3	155
Pears: <i>e</i>									
Edible portion—									
Minimum	2	—	83.9	.6	.1	14.1	—	.4	275
Maximum	2	—	84.8	.6	.8	14.2	—	.5	310
Average	2	—	84.4	.6	.5	14.1	( <sup>1</sup> ) 2.7	.4	295
As purchased	—	10.0	76.0	.5	.4	12.7	—	.4	260
Persimmons, edible portion <i>f</i>	1	—	66.1	.8	.7	31.5	1.8	.9	630
Pineapple, edible portion <i>g</i>	1	—	89.3	.4	.3	9.7	.4	.3	200
Plums: <i>h</i>									
Edible portion, average	3	—	78.4	1.0	—	20.1	—	.5	395
As purchased	—	5.0	74.5	.9	—	19.1	—	.5	370
Pomegranates, edible portion: <i>i</i>									
Minimum	2	—	75.4	1.3	1.2	18.5	2.6	.5	420
Maximum	2	—	78.2	1.6	2.1	20.4	2.8	.8	495
Average	2	—	76.8	1.5	1.6	19.5	2.7	.6	460
Prunes: <i>j</i>									
Edible portion, average	24	—	79.6	.9	—	18.9	—	.6	370
As purchased	20	5.8	75.6	.7	—	17.4	—	.5	335
Raspberries, red, as purchased <i>k</i>	1	—	85.8	1.0	—	12.6	2.9	.6	255
Raspberries, black, edible portion:									
Minimum	3	—	82.2	1.5	—	11.7	—	.4	245
Maximum	3	—	86.4	2.1	1.7	13.6	—	.7	350
Average	3	—	84.1	1.7	1.0	12.6	—	.6	310
Raspberry juice, edible portion	1	—	49.3	.5	—	49.9	—	.3	935
Strawberries: <i>m</i>									
Edible portion—									
Minimum	22	—	85.4	.6	.4	4.4	.7	.4	130
Maximum	22	—	94.0	1.2	1.1	12.3	2.3	.9	235
Average	22	—	90.4	1.0	.6	7.4	( <sup>19</sup> ) 1.4	.6	180
As purchased	—	5.0	85.9	.9	.6	7.0	—	.6	175

*a* The ash of 2 samples contained an average of CaO 29.9, K<sub>2</sub>O 48.3, MgO 4.4, P<sub>2</sub>O<sub>5</sub> 11.1, and SO<sub>3</sub> 2.8 per cent. Two samples contained an average of protein (N×6.25) 0.9 and preteids 0.5 per cent.

*b* Sugar 2.3, citric acid 7.5 per cent.

*c* Fat not determined.

*d* The ash of 9 samples contained an average of CaO 22.7, K<sub>2</sub>O 48.9, MgO 5.4, P<sub>2</sub>O<sub>5</sub> 12.4, and SO<sub>3</sub> 5.2 per cent. Fat determined in 8 samples, the mean of those assumed to be an average. Eight samples contained an average of 9 per cent sugar.

*e* One sample contained protein (N×6.25) 0.6 and preteids 0.3 per cent.

*f* Contained glucose 13.5, cane sugar 1 per cent.

*g* Contained protein (N×6.25) 0.4 and preteids 0.1 per cent.

*h* The edible portion contained 13.2 per cent sugar. Fat not determined.

*i* Two samples contained an average of glucose 11, of cane sugar 0.7 per cent.

*j* The ash of the edible portion of 3 samples contained an average of CaO 4.7, K<sub>2</sub>O 63.8, MgO 5.5, P<sub>2</sub>O<sub>5</sub> 14.1, and SO<sub>3</sub> 2.7 per cent. Edible portion of 20 samples contained an average of 16.1 per cent sugar. Fat was not determined.

*k* Fat not determined.

*l* Probably sweetened.

*m* Four samples contained an average of protein (N×6.25) 0.7 and preteids 0.5 per cent. Fifteen samples contained an average of glucose 5.5 and free acid, calculated as malic acid, 1.4 per cent.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
FRUITS, BERRIES, ETC., FRESH—continued.									
Watermelons: <i>a</i>									
Edible portion—		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	2	—	92.0	0.3	0.1	6.5	—	0.2	125
Maximum	2	—	92.9	.6	.2	6.9	—	.3	160
Average	2	—	92.4	.4	.2	6.7	—	.3	140
As purchased	—	59.4	37.5	.2	.1	2.7	—	.1	60
Whortleberries, as purchased <i>b</i>	1	—	82.4	.7	3.0	13.5	3.2	.4	390
FRUITS, ETC., DRIED.									
Apples, as purchased: <i>c</i>									
Minimum	3	—	8.6	1.2	.1	48.6	—	1.4	985
Maximum	3	—	47.4	2.5	5.0	86.9	—	2.7	1,630
Average	3	—	28.1	1.6	2.2	66.1	—	2.0	1,350
Apricots, as purchased: <i>d</i>									
Minimum	2	—	26.4	2.9	1.0	62.7	—	1.4	1,230
Maximum	2	—	32.4	6.4	1.1	63.3	—	3.4	1,330
Average	2	—	29.4	4.7	1.0	62.5	—	2.4	1,290
Citron, as purchased:									
Minimum	2	—	12.4	.4	.6	72.5	—	.8	1,380
Maximum	2	—	25.6	.6	2.5	83.7	—	.9	1,675
Average	2	—	19.0	.5	1.5	78.1	—	.9	1,525
Cuxrants, Zante, as purchased:									
Minimum	4	—	5.3	1.0	.4	60.0	—	2.2	1,195
Maximum	4	—	35.1	4.7	4.7	85.3	—	9.1	1,690
Average	4	—	17.2	2.4	1.7	74.2	—	4.5	1,495
Dates:									
Edible portion—									
Minimum	2	—	9.9	2.1	.6	70.4	—	1.1	1,565
Maximum	2	—	20.8	2.2	5.1	86.3	—	1.5	1,670
Average	2	—	15.4	2.1	2.8	78.4	—	1.3	1,615
As purchased	—	10.0	13.8	1.9	2.5	70.6	—	1.2	1,450
Figs, as purchased: <i>e</i>									
Minimum	3	—	11.6	2.6	.3	68.3	—	2.2	1,355
Maximum	3	—	25.0	5.7	.3	83.1	—	2.5	1,595
Average	3	—	18.8	4.3	.3	74.2	—	2.4	1,475
Grapes, ground, as purchased <i>f</i>	1	—	34.8	2.8	.6	60.5	3.7	1.2	1,205
Pears, as purchased	1	—	16.5	2.8	5.4	72.9	—	2.4	1,635
Prunes: <i>h</i>									
Edible portion—									
Minimum	15	—	16.9	1.4	—	68.1	—	1.5	1,340
Maximum	15	—	27.5	3.2	—	78.6	—	3.0	1,500
Average	15	—	22.3	2.1	—	73.3	—	2.3	1,400
As purchased	—	15.0	19.0	1.8	—	62.2	—	2.0	1,190
Raisins:									
Edible portion—									
Minimum	3	—	7.1	2.3	.5	71.3	—	2.0	1,540
Maximum	3	—	21.0	3.0	7.2	78.8	—	5.0	1,805
Average	3	—	14.6	2.6	3.3	76.1	—	3.4	1,605
As purchased	—	10.0	13.1	2.3	3.0	68.5	—	3.1	1,445
Raspberries, as purchased	1	—	8.1	7.3	1.8	80.2	—	2.6	1,705
FRUITS, ETC., CANNED; AND JELLIES, PRE-SERVES, ETC.									
Apples, crab, as purchased	1	—	42.4	.3	2.4	54.4	—	.5	1,120
Apple sauce, as purchased	1	—	61.1	.2	.8	37.2	—	.7	730
Apricots, as purchased	1	—	81.4	.9	—	17.3	—	.4	340
Apricot sauce, as purchased	1	—	45.2	1.9	1.3	48.8	—	2.8	1,000
Blackberries, as purchased	1	—	40.0	.8	2.1	56.4	—	.7	1,150

*a* In one melon the rind was 55.8 of the whole, the pulp 0.9, the seeds 2.2, and the juice 35.1 per cent. The edible portion of 1 sample contained protein (N×6.25) 0.9 and proteids 0.3 per cent.

*b* Contained protein (N×6.25) 0.7 and proteids 0.5 per cent.

*c* One sample contained 2 per cent free acid calculated as sulphuric acid.

*d* One sample contained 1.5 per cent free acid calculated as sulphuric acid.

*e* One sample contained 0.4 per cent free acid calculated as sulphuric acid.

*f* Contained 0.8 per cent free acid calculated as sulphuric acid and 1.3 per cent tannin.

*g* The percentage of fat given is evidently too high.

*h* Twelve samples contained an average of sugar 25.4 and free acid 0.3 per cent, calculated as sulphuric acid. Fat not determined.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued									
FRUITS, ETC., CANNED; AND JELLIES, PRESERVES, ETC.—continued.									
Blueberries, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum	3	—	84.9	0.4	0.4	12.2	—	0.2	260
Maximum	3	—	86.4	.8	.9	13.8	—	.5	230
Average	3	—	85.6	.6	.6	12.8	—	.4	275
Cherries, as purchased	1	—	77.2	1.1	.1	21.1	—	.5	415
Cherry jelly:									
1st quality, as purchased	1	—	21.0	1.1	—	77.2	—	.7	1,455
2d quality, as purchased	1	—	38.4	1.2	—	59.8	—	.6	1,135
Figs, stewed, as purchased	1	—	56.5	1.2	.3	40.9	—	1.1	785
Grape butter, as purchased	1	—	36.7	1.2	.1	58.5	—	3.5	1,115
Marmalade (orange peel), as purchased <i>a</i>	1	—	14.5	.6	.1	84.5	—	.3	1,585
Peaches, as purchased:									
Minimum	3	—	81.4	.5	—	5.3	—	.3	115
Maximum	3	—	93.7	.9	.2	17.3	—	.4	340
Average	3	—	88.1	.7	.1	10.8	—	.3	220
Pears, as purchased:									
Minimum	4	—	79.6	—	.1	15.6	—	.2	300
Maximum	4	—	83.6	.5	.9	19.5	—	.3	400
Average	4	—	81.1	.3	.3	18.0	—	.3	355
Pineapples, as purchased	1	—	61.8	.4	.7	36.4	—	.7	715
Prune sauce, as purchased	1	—	76.6	.5	.1	22.3	—	.5	430
Strawberries, stewed, as purchased	1	—	74.8	.7	—	24.0	—	.5	460
Tomato preserves, as purchased	1	—	40.9	.7	.1	57.6	—	.7	1,090
NUTS.									
Almonds: <i>b</i>									
Edible portion—									
Minimum	11	—	2.0	16.6	48.9	12.8	1.6	1.6	2,870
Maximum	11	—	5.3	25.3	60.0	21.4	2.5	2.5	3,145
Average	11	—	4.8	21.0	54.9	17.3	2.0	2.0	3,030
As purchased	—	45.0	2.7	11.5	30.2	9.5	—	1.1	1,660
Beechnuts:									
Edible portion	1	—	4.0	21.9	57.4	13.2	—	3.5	3,075
As purchased	1	40.8	2.3	13.0	34.0	7.8	—	2.1	1,820
"Biotes" (acorns), ( <i>Quercus emoryi</i> ):									
Edible portion	1	—	4.1	8.1	37.4	48.0	—	2.4	2,620
As purchased	1	35.6	2.6	5.2	24.1	30.9	—	1.6	1,690
Brazil nuts ( <i>Bertholletia excelsa</i> ):									
Edible portion	1	—	5.3	17.0	66.8	7.0	—	3.9	3,265
As purchased	1	49.6	2.6	8.6	33.7	3.5	—	2.0	1,655
Butternuts ( <i>Juglans cinerea</i> ):									
Edible portion	1	—	4.4	27.9	61.2	3.5	—	2.9	3,165
As purchased	1	86.4	.6	3.8	8.3	.5	—	.4	430
Chestnuts, fresh: <i>c</i>									
Edible portion—									
Minimum	9	—	29.2	4.1	2.0	36.9	1.4	.7	895
Maximum	9	—	53.8	8.0	10.8	54.0	2.5	1.8	1,480
Average	9	—	45.0	6.2	5.4	42.1	1.8	1.3	1,125
As purchased	9	16.0	37.8	5.2	4.5	35.4	—	1.1	945
Chestnuts, dried:									
Edible portion—									
Minimum	8	—	4.8	8.2	3.9	65.7	2.4	1.5	1,815
Maximum	8	—	6.6	13.5	15.3	80.3	3.0	2.9	2,085
Average	8	—	5.9	10.7	7.0	74.2	2.7	2.2	1,875
As purchased	8	21.0	4.5	8.1	5.3	56.4	—	1.7	1,423
Cocoanuts:									
Edible portion	1	—	14.1	5.7	50.6	27.9	—	1.7	2,760
As purchased	1	48.8	7.2	2.9	25.9	14.3	—	.9	1,413
Cocoanut without milk, as purchased	1	37.3	8.0	3.6	31.7	17.5	—	1.0	1,730
Cocoanut milk, as purchased	1	—	92.7	.4	1.5	4.6	—	.8	155
Cocoanut, prepared, as purchased:									
Minimum	2	—	2.8	6.0	51.0	24.1	—	1.2	2,990
Maximum	2	—	4.3	6.5	63.7	39.0	—	1.4	3,260
Average	2	—	3.5	6.3	57.4	31.5	—	1.3	3,125

*a* Fifteen samples of marmalade contain an average of water 30.8, sugar 32.8, invert sugar 32.3, glucose 14.2, acid 0.5, and undetermined 3.6 per cent.

*b* Fresh almonds contain from 40 to 42 per cent water. The ash of the kernel contains CaO 14.5, MgO 18.3, Na<sub>2</sub>O 1.8, K<sub>2</sub>O 11, MnO<sub>2</sub> 0.3, Fe<sub>2</sub>O<sub>3</sub>+Al<sub>2</sub>O<sub>3</sub> 0.8, P<sub>2</sub>O<sub>5</sub> 48.1, SO<sub>3</sub> 4.6, SiO<sub>2</sub> 0.2, and Cl 0.3 per cent.

*c* The ash of 2 samples contained an average of CaO 4.6, MgO 8, Na<sub>2</sub>O 1.2, K<sub>2</sub>O 48.7, MnO<sub>2</sub> 0.2, Fe<sub>2</sub>O<sub>3</sub>+Al<sub>2</sub>O<sub>3</sub> 0.4, P<sub>2</sub>O<sub>5</sub> 23.5, SO<sub>3</sub> 12.8, SiO<sub>2</sub> 0.2, and Cl 0.3 per cent.

*d* Milk and shell.

*e* Shell only.



## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.	Fat.	Total carbohydrates (including fiber).	Fiber (number of determinations in parentheses).	Ash.	Fuel value per pound.
VEGETABLE FOOD—Continued.									
NUTS—continued.									
Filberts:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Edible portion	1	3.7	15.6	65.3	13.0	2.4	3,290		
As purchased	1	52.1	1.8	7.5	31.3	6.2	1.1	1,575	
Hickory nuts:									
Edible portion	1	3.7	15.4	67.4	11.4	2.1	3,345		
As purchased	1	62.2	1.4	5.8	25.5	4.3	.8	1,265	
Lichi nuts:									
Edible portion	1	17.9	2.9	.2	77.5	1.5	1,505		
As purchased	1	41.6	10.5	1.7	.1	45.2	.9	875	
Peanuts:									
Edible portion—									
Minimum	4	4.9	19.5	32.3	15.3	2.0	1.9	2,415	
Maximum	4	13.2	29.1	48.8	40.4	3.0	2.4	2,885	
Average	4	9.2	25.8	38.6	24.4	2.5	2.0	2,560	
As purchased	2	24.5	6.9	19.5	29.1	18.5	1.5	1,935	
Peanut butter, as purchased	2	2.1	29.3	46.5	17.1	55.0	2,825		
Pecans, polished:									
Edible portion	1	3.0	11.0	71.2	13.3	1.5	3,455		
As purchased	1	53.2	1.4	5.2	33.3	6.2	.7	1,620	
Pecans, unpolished:									
Edible portion	1	2.7	9.6	70.5	15.3	1.9	3,435		
As purchased	1	46.3	1.5	5.1	37.9	8.2	1.0	1,846	
Pine nuts:									
Pignolias, edible portion	1	6.4	33.9	49.4	6.9	3.4	2,845		
Pinon (Pinus monophylla)—									
Edible portion	1	3.8	6.5	60.7	26.2	2.8	3,170		
As purchased	1	41.7	2.2	3.8	35.4	15.3	1.6	1,850	
Pinon (Pinus edulis)—									
Edible portion	1	3.4	14.6	61.9	17.3	2.8	3,205		
As purchased	1	40.6	2.0	8.7	36.8	10.2	1.7	1,905	
Sabine pine nut (Pinus sabiniana)—									
Edible portion	1	5.1	28.1	53.7	8.4	4.7	2,945		
As purchased	1	77.0	1.2	6.5	12.3	1.9	1.1	675	
Pistachios:									
First quality, shelled, edible portion	1	4.2	22.3	54.0	16.3	3.2	2,995		
Second quality, shelled, edible portion	1	4.3	22.8	54.9	14.9	3.0	3,020		
Walnuts, California: <sup>b</sup>									
Edible portion	1	2.5	18.4	64.4	13.0	1.4	3,300		
As purchased	1	73.1	.7	4.9	17.3	3.5	.5	885	
Walnuts, California, black:									
Edible portion—									
Minimum	2	2.5	24.9	54.7	7.4	1.6	1.8	3,070	
Maximum	2	2.5	30.3	57.8	16.1	1.8	2.0	3,140	
Average	2	2.5	27.6	56.3	11.7	1.7	1.9	3,105	
As purchased	2	74.1	.6	7.2	14.6	3.0	.5	805	
Walnuts, California, soft shell:									
Edible portion—									
Minimum	4	2.5	14.3	60.0	14.5	1.4	1.2	3,195	
Maximum	4	2.5	20.4	67.0	19.1	3.2	1.6	3,370	
Average	4	2.5	16.6	63.4	16.1	2.6	1.4	3,285	
As purchased	4	58.1	1.0	6.9	26.6	6.8	.6	1,375	
"Malted nuts," as purchased	1	2.6	23.7	27.6	43.9	2.2	2,240		
MISCELLANEOUS.									
Chocolate, as purchased:									
Minimum	2	1.5	12.5	47.1	26.8	1.1	2,720		
Maximum	2	10.3	13.4	50.2	33.8	3.3	2,995		
Average	2	5.9	12.9	48.7	30.3	2.2	2,860		
Cocoa, as purchased:									
Minimum	3	3.2	20.6	27.1	35.3	5.4	2,235		
Maximum	3	5.4	22.7	31.5	40.6	8.9	2,370		
Average	3	4.6	21.6	28.9	37.7	7.2	2,320		
Cereal coffee infusion (1 part boiled in 20 parts water) <sup>c</sup>	5	98.2	0.2	1.4	0.2	30			
Yeast, compressed, as purchased	1	95.1	11.7	21.0	1.8	625			

<sup>a</sup> 4.1 per cent salt.

<sup>b</sup> Fresh walnuts contain from 20 to 27 per cent water. The ash of 7 samples of kernel contained an average of CaO 5.6, MgO 16.6, Na<sub>2</sub>O 1, K<sub>2</sub>O 12.7, MnO<sub>2</sub> 0.3, Fe<sub>2</sub>O<sub>3</sub>+Al<sub>2</sub>O<sub>3</sub> 3.2, P<sub>2</sub>O<sub>5</sub> 57.8, SO<sub>3</sub> 1.3, SiO<sub>2</sub> 0.7, and Cl 0.7 per cent.

<sup>c</sup> The average of five analyses of cereal coffee grain is: Water 6.2, protein 13.3, fat 3.4, carbohydrates 72.6, and ash 4.5 per cent. Only a portion of the nutrients, however, enter into the infusion. The average in the table represents the available nutrients in the cereal coffee infusion. Infusions of gennipio coffee and of tea contain practically no nutrients.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
UNCLASSIFIED FOOD MATERIALS.									
ANIMAL AND VEGETABLE.									
Soups, homemade.									
Beef soup, as purchased:									
Minimum	2		92.3	2.7		0.3		1.1	110
Maximum	2		93.5	6.2		.5	2.2	1.2	130
Average	2		92.9	4.4		.4	1.1	1.2	120
Bean soup, as purchased	1		84.3	3.2		1.4	9.4	1.7	295
Chicken soup, as purchased	1		84.3	10.5		.8	2.4	2.0	275
Clam chowder, as purchased:									
Minimum	2		81.6	.7		.5	2.5	.6	80
Maximum	2		95.7	2.9		1.1	11.0	3.4	305
Average	2		88.7	1.8		.8	6.7	2.0	195
Meat stew, as purchased:									
Minimum	5		82.6	3.7		2.0	4.3	1.0	255
Maximum	5		87.6	5.6		6.4	7.9	1.3	445
Average	5		84.5	4.6		4.3	5.5	1.1	370
Soups, canned.									
Asparagus, cream of, as purchased	1		87.4	2.5		3.2	5.5	1.4	285
Bouillon, as purchased:									
Minimum	3		96.5	1.7			.1	.4	40
Maximum	3		96.7	2.6		.2	.3	1.4	50
Average	3		96.6	2.2		.1	.2	.9	50
Celery, cream of, as purchased	1		88.6	2.1		2.8	5.0	1.5	250
Chicken gumbo, as purchased:									
Minimum	2		86.8	3.0		.2	3.8	1.3	135
Maximum	2		91.7	4.6		1.7	5.5	1.4	260
Average	2		89.2	3.8		.9	4.7	1.4	195
Chicken soup, as purchased:									
Minimum	2		93.2	3.2			1.2	.9	90
Maximum	2		94.5	3.9		.2	1.7	1.2	105
Average	2		93.8	3.6		.1	1.5	1.0	100
Consommé, as purchased	1		96.0	2.5			.4	1.1	55
Cream, corn of, as purchased	1		86.8	2.5		1.9	7.8	1.0	270
Julienne, as purchased	1		95.9	2.7			.5	.9	60
Mock turtle, as purchased:									
Minimum	2		88.9	4.5		.5	1.6	1.2	160
Maximum	2		90.8	5.9		1.3	3.9	1.4	210
Average	2		89.8	5.2		.9	2.8	1.3	185
Mulligatawny, as purchased:									
Minimum	2		87.2	3.3			3.8	1.1	145
Maximum	2		91.3	4.1		.3	7.6	1.3	215
Average	2		89.3	3.7		.1	5.7	1.2	180
Oxtail:									
Edible portion—									
Minimum	2		88.3	3.9		.5	4.2	1.3	175
Maximum	2		89.4	4.1		2.1	4.3	1.9	245
Average	2		88.8	4.0		1.3	4.3	1.6	210
As purchased	1	1.8	87.8	3.8		.5	4.2	1.9	170
Pea soup, as purchased:									
Minimum	4		81.6	1.5			5.1	.7	220
Maximum	4		91.7	5.8		1.6	11.1	1.5	315
Average	4		86.9	3.6		.7	7.6	1.2	235
Pea, cream of green, as purchased	1		87.7	2.6		2.7	5.7	1.3	270
Tomato soup, as purchased:									
Minimum	2		89.7	1.7		.9	5.3	1.2	180
Maximum	2		90.4	1.9		1.2	6.0	1.7	185
Average	2		90.0	1.8		1.1	5.6	1.5	185
Turtle, green, as purchased	1		86.6	6.1		1.9	3.9	1.5	265
Vegetable, as purchased	1		95.7	2.9			.5	.9	65
Miscellaneous.									
Hash, as purchased	1		80.3	6.0		1.9	9.4	2.4	365
"Infants and invalids' foods," as purchased:									
Minimum	22		2.4	2.0		.3	66.9	.3	1,615
Maximum	22		12.3	22.5		10.9	89.4	4.5	1,985
Average	22		6.0	12.7		3.3	76.2	1.8	1,795

<sup>a</sup> This includes malted milk, infants' foods, and similar preparations which are sold under various trade names but are similar in composition.

## Chemical composition of American food materials—Continued.

Food materials.	Number of analyses.	Refuse.	Water.	Protein.		Fat.	Total carbo- hydrates.	Ash.	Fuel value per pound.
				N × 6.25.	By differ- ence.				
UNCLASSIFIED FOOD MATERIALS—Cont'd.									
ANIMAL AND VEGETABLE—cont'd.									
Miscellaneous—cont'd.									
Mincemeat, commercial, as purchased:		<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>P. ct.</i>	<i>Cals.</i>
Minimum .....	3	.....	20.8	1.4	.....	.8	56.7	1.1	1,125
Maximum .....	3	.....	39.7	14.6	.....	2.2	67.4	7.1	1,420
Average .....	3	.....	27.7	6.7	.....	1.4	60.2	4.0	1,305
Mincemeat, homemade, as purchased:									
Minimum .....	3	.....	49.6	3.4	.....	4.9	23.6	1.0	900
Maximum .....	3	.....	56.9	6.3	.....	8.1	34.1	2.5	1,080
Average .....	3	.....	54.4	4.8	.....	6.7	32.1	2.0	970
Salad, ham, as purchased .....	1	.....	69.4	15.4	.....	7.6	5.6	2.0	710
Sandwich, egg, as purchased .....	1	.....	41.4	9.6	.....	12.7	34.5	1.8	1,355
Sandwich, chicken, as purchased .....	1	.....	48.5	12.3	.....	5.4	32.1	1.7	1,055





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